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**Are Deep Approaches to Learning Possible in
Vocational Degree Courses in Construction?**

A Phenomenological Inquiry.

DOCTOR OF EDUCATION (Ed D)

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:: Abstract ::

Since its first formulation by Marton and Saljo (1976 a and b) the notion of deep approaches to studying has been influential within the higher education sector of the United Kingdom (Entwistle, 1997b; Webb, 1997a/b). Despite this the literature on approaches to studying, and the more recent literature on approaches to teaching, have remained, largely, detached from mainstream learning theories until Marton and Booth (1997) sequestered the approaches literature into their learning theory, labelled, by Prosser and Trigwell (1999), the constitutionalist perspective.

Marton and Booth represent this theory, which draws heavily from phenomenography, as a one best theory. These other learning theories, in turn, have been clustered into metaphors of acquisition and participation by Sfard (1998) and classified as either modern or post-modern by Prawat (1996).

This dissertation uses Sfard's metaphors and Prawat's classification to delimit the contours of the Marton and Booth's (1997) constitutionalist perspective and, in consequence, the approaches to studying and teaching literature sequestered, by them, into this theory.

This is undertaken within the context of an inquiry into approaches to studying and teaching, adopted by various student and staff members in a department of Building and Surveying, which offers construction related vocational degree courses in a "new" university in the West of Scotland. The study proceeds from Sfard's argument that the various metaphors/ learning theories are dialectically related rather than Prawat's and Marton and Booth's view that they are hierarchically or oppositionally related.

The study is phenomenologically oriented, remaining within the tradition of inquiry initiated by Marton and Saljo (op. cit.) and argued as potentially valuable by Lave (1996) to studies into legitimate peripheral participation.

The principle research instrument in the study is phenomenologically analysed group interviews with the data clustered around headings abstracted from Sfard and Prawat. The group interview is supported by a questionnaire constructed from by combining an abbreviated version of Entwistle's (1997) Attitude to Study Inventory (ASI) and Prosser and Trigwell's Attitude to Teaching Inventory (ATI).

The data generally supports Sfard's argument finding that students and teaching staff tended to talk in terms of both metaphors. However part-time staff and students tended to be the groups who mixed their metaphors the most. Full time staff tended to talk in terms of a single metaphor. In the case of the full-time quantity surveying staff their discourse was skewed towards an acquisition metaphor whilst the full-time interior design staff's discourse favoured a metaphor based on authentic practice in the studio and related this to the Bauhaus of Walter Gropius.

Those students who had an experience of practice, either as part-time students or during Supervised Work Experience (SWE) greatly valued practice as valid learning. Practice is described by them as a rich, complex and intense learning experience where tools of practice, including discourse, are used.

The data from the inventory tended either to support deductions drawn from the constitutionalist perspective and the *approaches* literature or be capable of explanation within that perspective. However, there is a suspicion of a social desirability response effect from the teaching staff responses.

Whilst agreeing with Sfard that one metaphor should not dominate the other it is suggested that there is room for manoeuvring the department closer to Sfard's participation metaphor and Prawat's post-modern theories. Student enthusiasm for learning in the authentic context of practice, together with tentative evidence for a deepened approach to studying after SWE, would suggest more emphasis being directed towards a view of the classroom as a locus of authentic practice rather than as a locus where practice is represented. The department being investigated already has the "tools" at its disposal to facilitate such a change in the form of part-time staff. It is recommended that:

- All student groups, including studio based interior designers, be required to undertake SWE with consideration being given to extending SWE from 8 months to 15 months (these durations include academic holiday periods).
- The present 80% of the assessment of SWE by teaching staff be discontinued in favour of a 50-50 split with supervising staff in the workplace. Assessment should be based on the

principle of *equivalency* and not *sameness* and could for example be related to internal, authentic, assessment regimes already in place in the workplace such as staff appraisal systems.

- The move towards a practice-portfolio basis for assessment of SWE.
- A closer linkage of SWE with other parts of the curriculum, especially the final year dissertation.
- Part-time staff should not just be treated as another pair of hands. Instead their ability to provide a unique contribution, enabled by their rich tacit knowledge, should be recognised e.g. by leading cross-discipline, case-study tutorials and by participating in course design.
- This last recommendation acknowledges a place for tacit knowledge in the curriculum. The department should investigate the extent to which tacit knowledge should feature, indeed is able to feature, in a classroom based curriculum.

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:: CHAPTER 1 ::
:: Introduction ::

Introduction

This study seeks to investigate whether deep approaches to learning are possible by students engaged in construction industry related undergraduate vocational degree programmes. It will do this by focusing on different groups of students and lecturing staff within a Building and Surveying Department in a “new” university in the West of Scotland. Within their programmes of study the various groups of students have different exposures to the work setting. Some, such as the interior design students, have no formal contact whilst some, such as full-time quantity surveyors and construction managers, have elements of supervised work experience (SWE) included, as an assessable element, in their programme. In addition some programmes are offered on a part-time basis to students employed in an appropriate capacity in the construction industry. These student groups, together with their teaching staff, will be central to this study.

The study recognises that notions of deep and surface approaches to studying, as articulated by Entwistle (1997) and others, are linked to a particular view of learning developed by Marton and Booth (1997) and referred to as the constitutionalist perspective (Prosser and Trigwell, 1999). The study asks if this, phenomenologically informed, model represents an appropriate learning theory in which to consider such a suite of courses. This, in turn, acknowledges the existence of other learning theories which may be more fitting to such vocational degrees in general and part-time modes of vocational undergraduate study in particular.

The contribution of this introductory chapter is to justify the study by:

- identifying the contours of the main approaches and theoretical framework which has informed curriculum development in the UK Higher Education sector for the last 20 -30 years
- identifying evidence from within the Department of Building and Surveying inconsistent with these approaches and theoretical framework.

Thereafter:

- identify alternative learning theories

- identify alternative locations for learning, especially the workplace with different accounts of or perspectives on workplace based learning and
- develop a set of hypotheses that can be tested throughout the study.

1.2 Approaches to studying and teaching.

Since initial work by Marton and Saljo (1976a and b) the literature, in the United Kingdom, on learning by university undergraduate students, has been influenced, if not dominated, by the notion of *approaches* to studying and how these might determine learning (e.g. Entwistle 1997; Webb, 1997a and b). Embedded in these *approaches* are two related notions; firstly that studying and learning are synonymous or that learning is best achieved through study, and secondly that qualitative differences in learning are explainable in terms of different approaches to studying. This emphasis on studying is reflected in the titles given to two of the standardised instruments used in this body of research: the Attitude to Study Inventory (ASI) developed by Entwistle and Ramsden (1983) and the Study Process Questionnaire (SPQ) developed by Biggs (1979)¹. As the ASI is the preferred instrument in the UK and the one which uses the terms *deep*, *strategic* and *surface approaches* it is the inventory which will be referred to within this thesis.

The Likert scaled Attitude to Study Inventory, and the qualitative research literature, rooted in phenomenology, which is associated with it, often polarises this distinction, into a deep/surface, *either/or*, binary with the deep approach venerated. This deep approach, is characterised by Entwistle (op. cit.), as representing an intention to understand ideas for oneself by relating newly studied material to previous knowledge and experience, looking for patterns and underlying principles, checking evidence and relating it to conclusions, examining logic and argument cautiously and critically and becoming actively interested in the course content. Such notions of approaches to studying have not been restricted to the research literature. The literature has been influential in the development of policy documents in, at least, Scottish universities

¹ Entwistle and Ramsden co-related their ASI with Biggs' SPQ as a validity check.

(SHEFC², 1993; Centre for Learning and Instruction (undated)) and, according to both Entwistle (op. cit.) and Webb (op. cit.), in higher education practices.

An associated, if later, body of literature, developed within the same research traditions, examines approaches to teaching (Prosser and Trigwell, 1999). This also establishes a binary of conceptual change/student focus (CCSF) contrasted with information transmission/teacher focus (ITTF), with the former couple being the preferred approach.

The optimum combination, in undergraduate education, requires a match between students intent on understanding ideas for themselves, using deep approaches to studying, with lecturers who are dedicated to developing conceptual change within the students. What is to be avoided is a combination of students adopting a surface approach, that is, simply, intent on coping with course requirements by, for example, memorising facts and a tutor intent on transmitting information.

Despite there being some argument about the extent to which the research into approaches to study was influenced by information process theory (Biggs, 1993, Entwistle, 1997, Entwistle, 1997a) this body of literature remained detached from any of the mainstream learning theories until Marton and Booth (1997) published their thesis that learning represents a Husserlian phenomenological constitution of knowledge in awareness. That is to say, until 1997, the approaches to studying literature valorised studying as an effective way of learning and even, within its structure, prescribed how to study. Moreover it did this without any explicit reference to what constituted learning.

In Marton and Booth's theory, learning is effected through a process of suspending the preconceptions and existing notions we have about a phenomenon or topic so that we come to a better understanding of it. Phenomenology refers to this as bracketing the natural attitude in the epoche. Most commentators argue that complete bracketing is impossible. Bauman (1993) refers to it as an *heroic act*³ (p.22), and the best that can be achieved is an acknowledgement that our existing conceptions influence how we experience. As such we should reflect constantly upon the extent to which our existing conceptions might inhibit learning. For students, a further dimension is thereby added; that is of their engaging deep approaches, seeking to understand ideas

² Scottish Higher Education Funding Council.

³ In the sense that the Charge of the Light Brigade was heroic.

or concepts for themselves through processes of reflection and reflecting on new material as it is studied. Study and reflection are coupled as the one best way to learn.

1.3 Vocational Degree Courses.

For the most part, within the *approaches* literature, the assumption has been that findings can be generalised to all student populations – that there is no vocational effect. Indeed several studies have included students engaged on vocational programmes such as engineering (Entwistle and Ramsden, op. cit.) without any attempt to identify or isolate any vocational effect. There are, of course, exceptions. For example, a study by Lonka and Linblom - Ylänne (1996) reported that psychology students were disposed to study practices which included a deep approach when compared to more vocationally oriented medical students, who were disposed to study practices which included a surface approach. A study by Beaty et al. (1997) identified that students have *learning orientations* (p. 86), one of which is vocational, which affect all sorts of things such as what is learnt and qualitative differences in learning outcomes. Vermunt (1996) identified an application directed style of learning which was intrinsically vocationally oriented and which contrasted with meaning directed and reproductive directed styles. These latter two styles of learning, identified by Vermunt, largely coincide with Entwistle's deep and surface approaches.

A second characteristic of this literature is its "campus" orientation in that it concentrates on full-time students during their attendance at university. Yet universities, at least in Scotland, are being encouraged to widen access through providing part-time modes of study with workplace based learning being taken into account in degree programmes. Similarly it is not uncommon for full-time vocational degree courses to include work placement as an assessable element within a programme of studies. The presumption, in both cases, is that relevant and valid vocational learning does take place in the workplace. The "campus" focus of the approaches to studying/learning literature would appear to neglect this alternative location of learning. The "campus" orientation suggests, that, given a teaching commitment to conceptual change/student focus by lecturers, full-time students, compared to part-time students, inhabit a richer context within which deeper approaches to studying should flourish leading to better learning. It also suggests that the time away from campus during supervised work experience or at work, in the case

of part-time students, should have a corrosive effect on student approaches to studying. From this interpretation the part-time students should have particular difficulties in developing or sustaining a deep approach. This should feed through to a detrimental effect on student approaches to studying resulting in reduced quality of learning which should be reflected in assessment⁴. There are, of course, other arguments which could be presented within this model, that time in the workplace demonstrates the relevance of that which has been studied in the classroom. However this argument, although it may be inferred from, is not explicitly expressed in either Entwistle's or Marton and Booth's articulation of the model and is, for the time being, discounted.

1.4 Anecdotal evidence that this is not so.

What is of concern here is the nature of the "good student" and "good teacher". Focusing on the former - he/she is reflective, seeks to understand concepts, checks evidence, examines logic and arguments cautiously and is more likely to be found amongst full-time students than part-time. Moreover supervised work experience has the potential to corrupt the good student because he/she is denied access to the campus environment where the above activities are venerated and, presumably, made obvious. Within my own department there is some tentative evidence to the contrary. This evidence is in four parts.

Firstly from external examiner's reports. Each programme has two external examiners one from industry/practice and one from another academic institution. The following are some extracts from external examiners' reports.

Part-time students tend to perform better in the early part of the course but there is a step⁵ change in the performance of the full-time students after their industrial training period which reverses that position.

At level 1, a full-time failure rate of 34% contrasts sharply with a part-time 100% success rate.

(Academic Quantity Surveying (QS), 1997/ 98)

⁴ There are several presumptions here which will be discussed later e.g. that the assessment regime would be consonant with the values embedded in a deep approach to studying and that the approaches are not stable and can be affected by different contexts.

⁵ May mean "steep" but "step" also makes sense.

Full-time students gaining awards were sound but undistinguished in their performance and have benefited from a sound educational programme. Part-time students were more distinguished in their performance with one particularly good candidate.

(Practice based Q. S. 1999/ 2000)

Generally the full-time quantity surveying results are significantly lower than the part-time students.

(Academic Q.S. 1999/ 2000).

The performance of part-time students was particularly good.

(Practice based Construction Management, 1997/ 1998)

It would appear this full-time QS [but not part-time] cohort has underachieved in several subject areas.

(Academic Q.S. 1999/ 2000).

In short, the part-time students impress the external examiners, particularly the academic examiners, more than the full-time students and there is one reference to the full-time students becoming better students as a result of work experience.

Secondly, some quantified data are available from the author's own analysis of a particular module. The author is Module Leader for Building Technology 3 (BSUT333). This is the only module delivered to multiple student groups where the author is module leader. For the past four years I have been unhappy about the level of statistical analysis done by the University's central system and have been entering module data into Statistical Package for The Social Sciences (SPSS) for analysis. The results are available for 1997/ 98 and 2000/2001 – the results for the intervening years have been lost.⁶ In 1998, a "t"-test revealed that part-time students significantly (at 0.05 level) outperformed full-time students in exam and overall performance but not in coursework.

An Analysis of Variance (ANOVA) of the 2000/ 2001 results using Tukey's - b post hoc test is presented in Table 1.1 and reveals two *homogenous subsets*. The two subsets, with the means for each student group, are shown in columns headed Subset 1

⁶ Probably during an over-zealous file editing session.

and Subset 2. The full time students predominate one, the lower, subset whilst the second, with higher mean scores, subset is composed entirely of part-time students.

Table 1.1 :: ANOVA Subsets for Level 3 Building Technology Exam ::
:: Module No BSUT333 - 2000/ 01 ::

Programme	N	Subsets for alpha = 0.05	
		Subset 1	Subset 2
Full- time quantity surveying	22	36.50	57.14 60.40
Part-time quantity surveying	22	42.41	
Full-time construction management	31	42.87	
Full time building surveying	39	44.47	
Part time building control	7		
Part time construction management	10		

When the results were presented to core QS teaching staff they were alarmed that the part-time quantity surveying students performance had located this group with the full-time students. Indeed in the four years of analysing the data for BSUT333 this is the first time a part-time group have demonstrated this characteristic. Table 1.1 could, of course, be interpreted differently in terms of a size effect, that is the smaller the numbers (N) in a student cohort the better the results, or it could be that part-time students are slightly older. This may be so, but the point is, that, whereas the evidence is not conclusive, it does suggest grounds for further investigation.

Thirdly, as part of the full-time programmes students engage in Supervised Work Experience (SWE) starting at the end of semester B of level, or year, 2 (May) and returning at the start of semester B level 3 (February). Full-time students are asked to submit three reports during SWE which, based on Schon’s (1991) idea of the reflective practitioner, asks them to connect theoretical issues from the classroom to practice. A chapter from Schon (1991) is included in the documentation issued to the students at the start of SWE. Marking such reports I have found that, often, students are unable to make this connection, such that the reports read as if the student has never been in practice. The students, sometimes, appear locked into a *understanding ideas for*

oneself attitude, central to the deep approach, but are unable to make a connection to practice – presumed central to any vocational course emphasis.

Fourthly, and, because of the lack of presentable evidence, the least compelling is the general agreement amongst the department's teaching staff that part-time students are better students than full-time and that the full-time students are better students on their return from supervised work experience.

What is presented here in terms of extracts from external examiner reports and from results from, admittedly, only one module is provisional evidence that part-time students out-perform full-time students. This is tentative evidence, not, in itself, sufficiently robust to draw conclusions about the validity of the constitutionalist perspective and the embedded notions about approaches to studying and teaching in vocational degree programmes. It does, however, indicate enough contradictions to generate a level of curiosity and an impulse for further research. Such further research should include the possibility of the appropriateness of the constitutionalist perspective and the possible admission of other learning theories, other locations for learning and other perspectives on learning (Fig. 1.1).

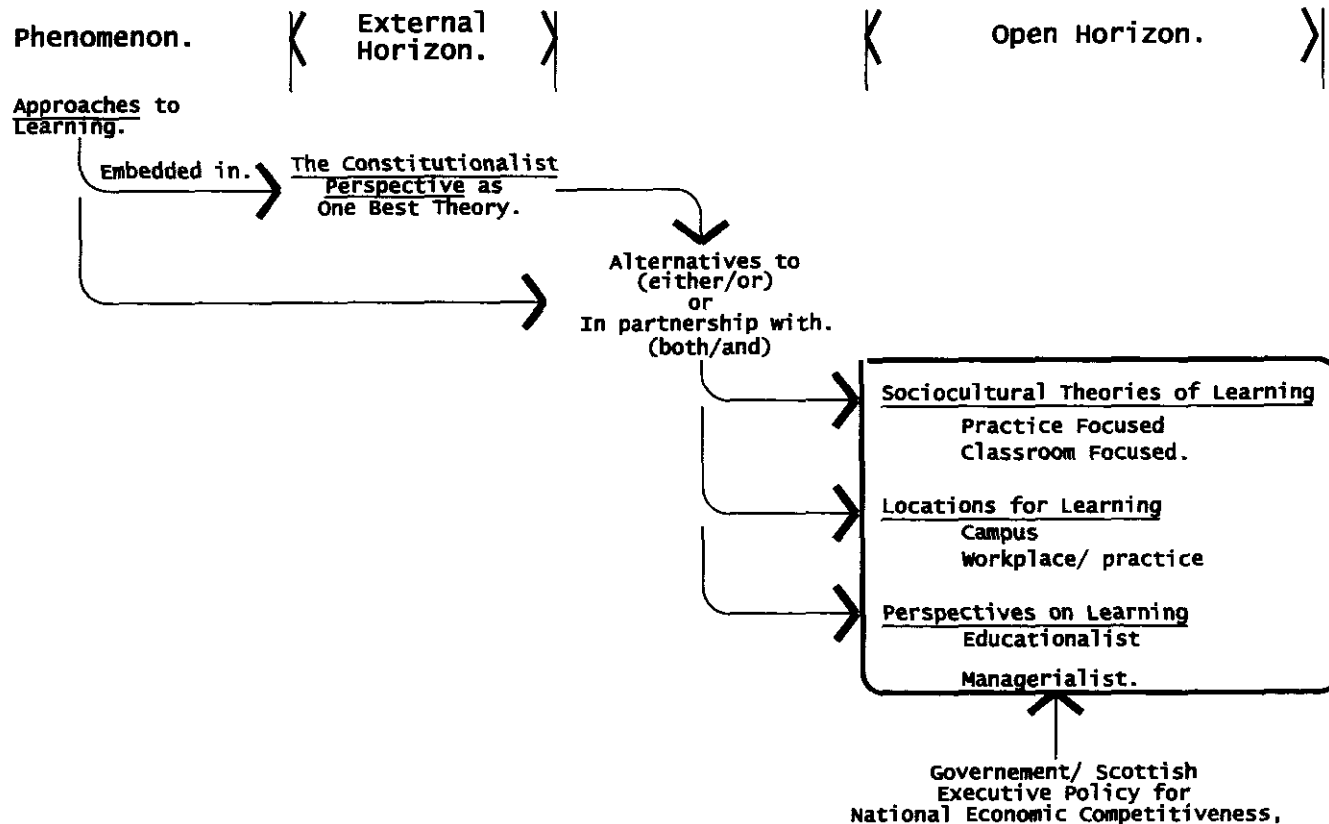
1.5 Alternatives.

1.5.1 Alternative Learning Theories.

Webb (1997a/b) has argued that, despite its lack of a robust theoretical base, the notions of deep and surface approaches to studying/learning has dominated research, discourse and practice within the UK higher education sector for the past 30 years. In other words alternative learning theories have not been considered.

The other learning theories, include the radical constructivism of von Glasersfeld (1989, 1995a/b) together with a family of theories referred to as socio-cultural learning theories. In general these, latter, theories view learning not as securing theoretical concepts in mind, but as an increasing ability to participate in complex practices valued within a community. As such they would appear to be capable of offering something to vocationally oriented degree programmes. Sfard (1998) and Prawat (1996) have compared these theories with theories which valorise learning as the acquisition of concepts in mind. Sfard uses an acquisition/ participation split whilst Prawat uses a modern/ post-modern split.

Fig. 1.1 Approaches to Studying/Learning as Horizontal,
but with Alternatives or Open Horizons.



Sfard's acquisition largely coincides with Prawat's modern and her participation coincides with his post-modern. Sfard and Prawat's analyses are of value, not least because of the analytical frameworks they develop and use. It is proposed to make use of these frameworks in a combined form within this study. One problem emerges in making Sfard/Prawat central to this study. Whilst using different analytical headings they are in general agreement except on two crucial points. Firstly Sfard argues a *both/and* case, that is that acquisition and participation metaphors can be combined and are combined in discourse. Prawat, on the other hand, argues an *either/or* case, that is the post-modern theories are superior and should be prioritised over modern. The second point they diverge upon is the status of one theory - symbolic interactionism (Cobb, 1999). Sfard identifies it as acquisition whilst Prawat identifies it as post-modern. This is an important theory of potential relevance within this study to the extent that it is discussed in detail in Chapter 4.

Neither Sfard nor Prawat present empirical evidence to support their views that the learning theories are either dialogically related, as Sfard argues, or are hierarchically related as Prawat argues. Most advocates of particular theories, and this includes Marton and Booth, tend to emphasise the distinctive features of the theory they propose elevating it to the status of "one best theory". Von Glasersfeld does this with radical constructivism, Gergen with social constructionism, and Lave and Wenger with situated learning⁷. Prawat appears to follow this *either/or* "one best theory" tradition. Sfard (1998) takes up a more ecumenical *both/and* position. Although supported, in part by Greeno et. al. (1999) and notions such as the under-determination of theory (Guba and Lincoln, 1998) there is little evidence in the literature that practitioners, either as students or teachers or as professionals in practice, use a *both/and* approach.

1.5.2 Alternative Locations for Learning

Through the notion of supervised work experience and the insistence that enrolment onto part-time courses is contingent on being employed in a relevant capacity in the construction industry, the department tacitly acknowledges that learning takes place beyond campus. This connects with the, already mentioned, alternative theories of learning. Situated, or socio-cultural theories, either focus on learning through legitimate peripheral participation in practice often in the workplace (Lave and

⁷ Lave and Wenger (1991) are at pains not to claim their views as a learning theory and more of a way of looking at learning.

Wenger, 1991) or through the replication of authentic practices within the classroom (Roth, 1999).

1.5.3 Alternative Perspectives on Learning.

In the workplace learning is not explicitly in focus (Wenger, 1998). In the private sector profit is in focus and, in the public sector, it is effective service delivery. Both sectors, according to government, at both the U.K. and Scottish Executive level, require to operate assertively as learning organisations within a globally competitive knowledge economy (BBC/ Radio 4, 2001). Within this context learning, knowledge and knowledge creation, become a managerial concern. This, in turn, presents an alternative, managerialist perspective on learning (Von Krogh et al. 2000) from that found in educationalist literature. The extent to which this alternative perspective coalesces with the alternative socio-cultural learning theories will be examined within this study.

1.6 Hypotheses.

Thus an initial hypothesis can be formed. This is stated in terms of accepting the validity of the constitutionalist perspective and associated notions of deep approaches to studying.

It holds that:

Hypothesis 1

The constitutionalist perspective and its associated notions of deep approaches to studying by students and conceptual change/ student focus by teaching staff represents an adequate model on which to base undergraduate vocational degree programmes in the construction industry.

It follows, from this hypothesis, that a deep approach to studying as defined within this perspective, and a conceptual change/ student focus approach by teaching staff, are valid aspirations for such programmes. It also follows that time spent in the workplace is potentially detrimental to approaches to studying developed by students, and ultimately to their learning - as such it should be discouraged.

An alternative hypothesis can be stated in either/ or terms of:

Hypothesis 2

Socio-cultural or situated learning theories are more appropriate models for vocational degree programmes in the construction industry. As such they,

rather than the constitutionalist perspective, should inform curriculum development in vocational degree programmes

This would agree with Prawat's hierarchical ordering of the post-modern over modern theories. It would follow from this hypothesis that the notions of approaches to studying and teaching may have to, either be abandoned, or considered irrelevant, or redefined into contours more acceptable within socio-cultural theories.

A second alternative hypothesis can also be stated in both/and terms of:

Hypothesis 3

Both socio-cultural theories and the constitutionalist perspective have something to offer vocational degree programmes in the construction industry.

This would follow from Sfard's view that the theories are dialogically related. It would follow from this hypothesis that the notions of approaches to studying and teaching could be retained to sit alongside course changes consequent on a adopting socio-cultural learning theories. Alternatively they could be adapted or extended in response to adopting such theories.

Hypotheses 1 and 2 have been caricatured as *either/or* perspectives in that accepting the theory, or family of theories, mentioned in the hypotheses implies rejection of other theories which are regarded as flawed, inadequate competitors. Hypothesis 3 is more consistent with Sfard's ecumenicism and is caricatured as *both/and*.

1.7 Courses and Modules

The Department of Building and Surveying (BSU) runs a suite of courses on a modular basis. Courses, or programmes, are administered through Programme Boards whilst the primary responsibility for modules is extinguished through 4 Subject Quality Boards. This could be interpreted as a disjunction. Within a vocationally emphasised department the vocational relevance of the learning experience may be regarded as the responsibility of the Programme Boards (PB) whilst the intellectual rigour of the subject matter within modules is the responsibility of Subject Quality Boards (SQB). Of course it is never as clear cut as that. Teaching and research staff with teaching duties are often members of several programme boards and subject quality boards. Programme boards are often combined e.g. the full-time and part-time quantity surveying boards are combined, as are the full-time and part-time construction

management boards. The design SQB and interior design PB are, effectively, the same entity.

Module descriptors exist for all modules including Supervised Work Experience. Amongst other things the module descriptor specifies the *Teaching and Learning Strategy* for that particular module. The most common form of words is, or is a variant of:

Lectures provide the basic theoretical concepts which will be complemented by tutorials, site visits and seminars. There will be a cross module integrated project based on a live site. Students will have access to a display of site drawings [..]

(BSUT333).

The emphasis initially is on concepts but extends into practice with reference to tools and artefacts used on site.

In terms of this study, a significant suite of modules are the SWE modules. These feature in all the full-time programmes except those where students enter directly with Higher National Diplomas into level 3 of the degree programmes. Thus it is not undertaken by the interior design students. SWE takes place during the summer vacation and Semester A of level 3 displacing 3 taught modules. In assessment terms, it represents 60 level 3 credit points. With each course being 4 years (levels) duration at 120 credit points per year, SWE accounts for 12.5% of overall course assessment. 80% (of this 12.5%) of the assessment is retained, and carried out, by departmental lecturing staff. This is based on three pieces of written work submitted by the student (60%) and 2 visits by staff to discuss and assess the placement with the student and his employer(20%). The remaining 20% of the SWE assessment is by the employer. The employer's discretion is limited as this part of the assessment is returned on a pro-forma.

1.8 Recent Local Developments.

Three recent developments have emerged as issues relevant to this study. Firstly there has been some concern expressed about the quality of final year dissertations. The dissertation counts as a double module and represents 33% of the aggregate final year marks. More subtly, decisions regarding students on honours classification

borderlines are almost always made by reference to the dissertation⁸. The proposal being advanced is that less able students do a practical project rather than a dissertation with a ceiling placed on their level of honours award. A second class upper division has been suggested. The second recent development is concern over high marks awarded within part-time supervised work experience modules in the final, honours year. The suggestion is that SWE marks should not contribute to the level of honours award. Both these recent developments could be construed as reinforcing a position within the department which elevates theoretical knowledge at the expense of practice or practical knowledge. Valid learning becomes an acquisition of such knowledge. A final recent development is the suggestion that subject quality boards be disbanded with their responsibilities taken over by programme boards. This could be interpreted as a reinforcement of vocational relevance over intellectual/ conceptual understanding.

1.9 Models - or at least some building blocks for one.

What has been identified so far are different locations of learning within the curriculum of vocational education as practised within the Department of Building and Surveying, different learning theories and three hypotheses. This can be constructed into an incomplete model of:

Fig. 1.2 :: Locations and Theories of Learning ::

Locations of Learning		Theories of Learning	
• Campus	<<<Hypotheses>>>	• Constitutionalist	
• Workplace		Perspective	
		• Socio-cultural	

The task of this study is to elaborate and, if possible, complete this model by identifying which of the three hypotheses best cements what is implied in the differing locations of learning with what is explicit within differing theories of learning.

1.10 Proposed Structure.

Figure 1.1 partially maps out the structure of this thesis. The study is concerned with deep approaches to learning, if not studying. The study is intended to be informed by

⁸ The exception being Interior Design students who do not do a dissertation.

Husserlian phenomenological principles and, referring to the language of phenomenology, these approaches are embedded within the context, or open horizon, of the constitutionalist perspective. Alternative contexts, open horizons, are indicated shown boxed in figure 1.1. These in turn are influenced by government policy at both the UK and Scottish Executive level. This influence, it will be argued, helps generate a managerialist perspective on learning which can be counterpointed against an educationalist account. Hence the managerialist perspective is shown slightly detached from the other aspects of the open horizon.

The study will, firstly, examine the context of vocational degree education against the background of policy objectives stated by the Scottish Executive and the relationship of vocational education within higher education, to the traditional view of universities as being concerned with a general liberal education. Within this context the role of the professional institutions, powerful in the construction industry, will be included. The study will use Sfard's and Prawat's analytical framework which allows distinctions to be made between the various "families" of learning theories. These theories, including the constitutionalist perspective of Marton and Booth which is not discussed by either Sfard or Prawat, will be examined in terms of their relevance to vocational education, especially when parts of that education are located in the workplace. This in turn will implicate the literature on workplace based learning.

The research methodology will remain, generally, faithful to the research traditions which have been used in developing the ideas of deep and surface approaches to learning and the associated constitutionalist perspective of learning – in other words phenomenography and an amended form of the inventories. This will seek to reveal the extent to which student and teaching staff conceptions of learning and approaches to learning are recognisable and consonant with the ideas contained within the constitutionalist perspective, and the embedded notions of deep and surface approaches to studying/ learning. Alternatively, conceptions held by staff and students may align more with underlying principles of the alternative learning theories such as the socio-cultural or situated learning theories referred to above. In which case the study will seek to reveal which of the above hypotheses is most plausible. Should either of the two alternative hypotheses emerge as the more plausible then, hopefully, a redefined notion of approaches to studying by students and teaching by staff will emerge.

1.10 A Note about Terminology

Two terms have already been used with reference to the ideas of Marton and Booth and Entwistle - these are the *constitutionalist perspective* and *phenomenography*. This last term is potentially troublesome. In the literature on student approaches to learning it is sometimes referred to as a research methodology and sometimes as a learning theory. In this thesis the use of the term *phenomenography* will be restricted to references to a particular research methodology. The term the *constitutionalist perspective* will be restricted in use to reference to the learning theory articulated by Marton and Booth (1997) and which has emerged from phenomenographic research methods.

:: CHAPTER 2 ::

:: Contexts - External and Open Horizons ::

2.1 Introduction

This chapter will seek to examine the contexts within which the university education of construction industry professionals, including the Quantity Surveyors, Construction Managers and Interior Designers mentioned in Chapter 1, takes place in the United Kingdom. It will also introduce the linked notion of horizons, developed within Husserl's (1970, trans.) phenomenology. Figure 1.1 suggests that the idea of approaches to studying/learning and teaching may be openly horizontal i.e. transferable to other contexts.

Context is important for three reasons. Firstly phenomenology, both as a methodology and philosophy, recognises that all phenomenon are experienced within contexts. Things exist within *a field of things* (Husserl, 1970, p.162). Within phenomenology, the context within which a thing is experienced, its *external horizon*, needs to be made explicit before the thing can be made obvious and considered within other contexts – the thing's *open horizon* (Husserl, 1970, p. 162). This notion, of explicating context is not unique to phenomenological research - it is one shared by the four other qualitative traditions: of biography, grounded theory, ethnography and case study, identified by Creswell (1998).

Secondly, different learning theories ascribe different levels of importance to context. Behaviourism ignores it, radical constructivism accords it minimal attention, whilst situated theories regard it as central and embedded in the situation during learning. Context, in the constitutionalist perspective, is relabelled *relevance structure* (Marton and Booth, 1997, p.143) and, rather than being considered as embedded in the learning situation, needs to be made explicit, usually by the tutor, during learning.

Finally, context is important to any recommendations that emerge. Recommendations which respect context or require minimal contextual adjustment are more likely to be acceptable. Recommendations which challenge existing contexts, especially if these are politicised, are more

vulnerable to rejection and may have to be supported by a detailed implementation strategy.

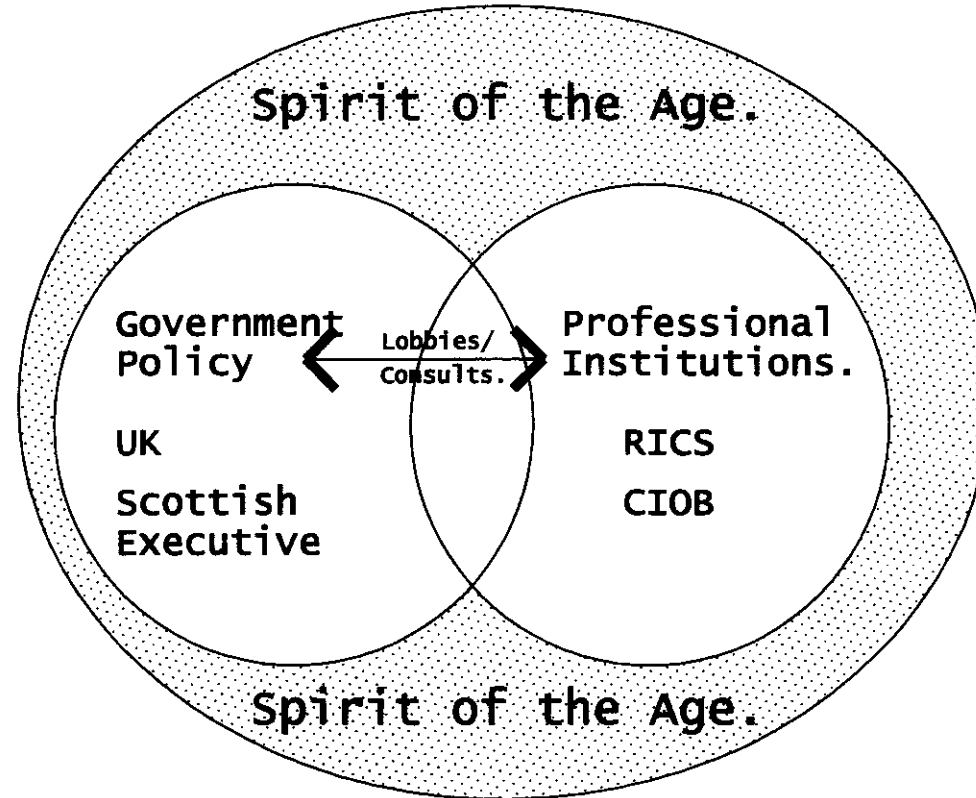
Within phenomenology Husserl used the term *horizon*. By horizon he referred to our perceiving things within a *perceptual field* or *within a field of things* (Husserl, 1970, p. 162). This he defined as the *external horizon*. Whilst perceiving things within such contexts the thing:

has meaning only through an open horizon of “possible perceptions” insofar as what is actually perceived “points” to a systematic multiplicity of all possible perceptual exhibitings belonging to it harmoniously. (p. 162)

Thus, because we perceive *things* within a context we never fully perceive them in terms of their possibilities. There always remains possibilities which can be given in further acts of perception or, important within phenomenology, reflection (Moran, 2000). The horizon maps out a series of expectations and seeks confirmation or rebuttal of these expectations derived from the original experience.

Learning theories themselves, can be considered as context creating. Webb (1997a/b) claims that the literature on approaches to studying, for the last 30 years, has enjoyed the status of hegemony within the UK higher education sector. As such, a raft of structures, programmes, development centres etc. have been constructed which accept, promote and which have become hostage to this notion. If this notion, as currently configured, is threatened then this raft of other structures etc. are imperilled. As Guba and Lincoln (1998) point out, hegemony is not just about intellectual ascendancy it is about the control of *publication outlets, funding sources, promotion and tenure mechanisms, dissertation committees, and other sources of power and influence* (p. 217). In short the established notions of approaches to studying, if not the constitutionalist perspective itself, have created their own hegemonic, politicised context or *external horizon*. The extent to which the idea of deep approaches to studying can be detached from this self constructing, external horizon and reconfigured into other *open horizons* of alternative learning theories will be examined in this study. The nature of these horizons, both

Fig. 2.1:: Contextual Factors.



external, and open are examined, by reference to the taxonomies developed by Sfard (1998) and Prawat (1996), in the second half of this chapter.

2.2 Contexts

The strategy of the Department of Building and Surveying, in terms of curriculum may be considered as influenced from three interconnected sources. These are as shown, as three factors, in Figure 2.1.

1. **The spirit of the age** – as represented by the debate regarding the role of universities in society. The department is one small part of a wider academic community. Any debate about the nature and role of higher education is likely to influence the department more than the other way round. The *spirit of the age* may be regarded as representing an environment or meta-context within which other stakeholders in higher education articulate their expectations and from which they draw arguments to construct and support their positions.
2. **Government Policy** – firstly, and historically, as determined at the UK level. Secondly, and because there are differences, as determined by the Scottish Executive and its agencies such as the Scottish Higher Education Funding Council.
3. **The professional institutions** – in this case the RICS and the CIOB¹. The department puts great store on accreditation of its courses by these professional institutions. About 80% of full-time teaching staff are members of one, or both, of these institutions and all the part-time staff are members of the RICS.

The unit of analysis in this study is a particular department within a Scottish university. The *department* is the basic and fundamental administrative academic unit within higher education. Of itself, it is weak in political and

¹ The Royal Institution of Chartered Surveyors and The Chartered Institute of Building.

resource terms. The other agents in Figure 2.1 can be considered as stronger than the department in terms of political power and available resources. In short, Figure 2.1 illustrates a top-down cascade towards the department with the department having to balance potentially competing demands from these other stakeholders. Although this characterises the department as weak it is not impotent. Staff members are active within the committee structures of both the university and the professional institutions, locally and nationally, and can promote any agenda of the department.

2.2.1 The Spirit of the Age or the Current Debate on the Role of Higher Education

There is an ongoing debate about the role of higher education in society and the relationship of higher education to other economic, social and cultural objectives (Smith and Webster, 1997). Significantly, this debate is carried out mainly by reference to epistemic arguments with two competing views. The first view is that universities are guardians of disinterested knowledge (Filmer, 1997) and that engaging in higher education for instrumental, economic ends, including the provision of education for the professions, is inimical to this stewardship. The alternative view rejects this notion of disinterested knowledge in favour of a view of universities as key “players” interested in national strategies such as social inclusion and, important to this study, securing economic competitiveness in a global knowledge economy. This view is much more instrumentalist and, at the tactical level, would allow a greater role for education for the professionals within universities. At the heart of the argument is the nature of what constitutes professionalism which, in turn, implicates the nature of knowledge used by professionals.

These two perspectives of the University, the disinterested and the interested, when linked to national economic aspirations, potentially cross-reference to two distinct cultural positions for the university: the “learning culture” and the “corporate culture”. Alternative positions emerge. First, the university as a learning culture was historically based on a disinterested perspective of learning (and research). Generally it held to an account of knowledge as value free which can be arrived at provided the central tenets of objectivity are adhered to

(Filmer, 1997). More recently, more interested views of knowledge and learning have been included within this debate. A critical theorist account that knowledge is value laden and what constitutes valid knowledge is determined by reference to political, social, cultural, ethnic and gender considerations would be allowed within this epistemologically driven debate. What is important is that two different accounts of knowledge and learning are presented and debated under an epistemological, in this case positivist v critical theory, umbrella. Other epistemic positions would be allowed to enter this debate e.g. pragmatism (Rorty, 1982), social constructionism (Gergen, 1999) and radical hermeneutics (Caputo, 1987) etc. Within this debate the notion of vocational education, its value within the higher education system, and its relationship to other aspects of higher education, would be derived by reference to these various epistemological arguments. In terms of vocational knowledge and learning, in succeeding chapters, this will be labelled the educationalist account.

The alternative notion is sometimes referred to as the post-modern university (Filmer, op cit.). In this account universities, by abandoning disinterest, inevitably abandoned any epistemic culture in favour of accepting the dominant cultural values of society, in particular the values of corporatism. Within this latter position the inclusion of vocational or professional education into the university is regarded as symptomatic of the acceptance of such a corporate culture. An identified danger is that the professions, through their powerful institutions, represent a particular threat to any residual, epistemologically derived values, of the universities. Part of this argument is premised on perceived parallel shifts, within the professional institutes, from a doctrine of learned body to one of corporate entity and a shift from regarding the professional as someone who *professes* (Koehn, 1994) to someone who is no more than corporate man. In this sense it is based on a relatively idealist view of the university but with a more disparaging view of the professional institutions and the professional.

This corporate culture leads to a corporatist or managerialist account of knowledge and learning. In this account knowledge is valued in terms similar

to any other commodity with a transactional value dictated by the market place. Knowledge is viewed in terms of individual, organisational and national assets. Learning is perceived in investment terms as a process of maximising the value of the commodity or as the formation of human capital - as in human capital theory (Nicoll and Edwards, 2001). In terms of vocational knowledge and learning, in succeeding chapters, this will be referred to as the managerialist account.

2.2.2 Government Policy - at UK Government Level

Prior to assuming office, Gordon Brown, the current Chancellor of the Exchequer, published a speech/pamphlet subtitled *turning the workplace into a centre of continuous learning* (Brown/ Labour Party, 1994). In it he talked about the nation taking a lead and gaining:

a competitive edge by providing our workforce with the best opportunities for training and education in the world. [...] It will happen if the best skills are made available where people are - in the workplace and at home.

(p. 6).

Later, and by this time with Labour in power, Blunket (IPPR,1997) talked about *bring[ing] learning to people at work* (1997, p.i) with national competitiveness as the driver.

Imperatives which required learning to be considered as an instrument of national economic competitiveness, identified by the IPPR (1997, p.2), included the realisation that the ability to create *intellectual added value* is a more important national asset than any natural resources such as coal and iron which drove the industrial revolution. What is required is a boosting of the capabilities of the workforce to narrow the gap between demand and supply of skills - *the skills gap*. The concern is, as a nation, the United Kingdom is

failing to meet the necessary standards [...] in crucial managerial and technological competencies, in foreign languages, [...] in information technology skills [...]

(IPPR p. 7)

A future is predicted *where learning requirements will be greater than they have been in the past necessitating modernising the supply of learning* (IPPR, 1997, p.7). Within such a modernised system IPPR acknowledge that much learning should take place through work itself *with or without the guidance of others in the organisation* (p.14).

These ideas of IPPR are endorsed by the UK Government. Blunket, interviewed by Morgan (1997) starts from the same premise as IPPR, that the driver is global competitiveness:

[..] large multi-national companies can now chose from literally dozens of education systems across the world. [...] no educational service can afford to ignore this fact.

(p. 457)

Educational services are to be more responsive to the demands of large multi-national companies. The epistemic debates in section 2.2.1 are dismissed as self indulgent irrelevancies in this account. What is important is the creation of human capital:

[..] it is the investment in human capital which is the key to the future rather than in fixed property and traditional capital.

(p. 457)

Although Blunket (United Kingdom, 1998)² later refers to other benefits of lifelong learning in terms of social inclusion, personal achievement, autonomy and citizenship it has been argued that the dominant thrust of his argument has been a focus on *the primacy of human capital theory and the development of human capital as rationales for lifelong learning* (Nicoll and Edwards, 2001, p.465).

The key point is that knowledge is a resource, comparable to the natural resources which fuelled the industrial revolution, which requires to be managed in order to secure national economic objectives. Learning is the process of creating this national knowledge resource required to sustain a competitive knowledge economy. Knowledge is to be managed towards this goal, resulting

² Green Paper: *The Learning Age: A Renaissance for a New Britain* (1998)

in a managerialist, rather than an epistemologically derived, account of knowledge - and learning.

2.2.3 Government Policy:- The Scottish Context

These themes are pursued in Scotland with perhaps even more vigour. Since Devolution on 1st July 1999 all education in Scotland is a devolved function of The Scottish Executive. Whilst the executive represents the paramount, policy forming, authority in respect of education, the main agency for advising Scottish ministers on, and implementing formulated higher education policy, is the Scottish Higher Education Funding Council (SHEFC). In Scotland SHEFC *is a non-departmental public body responsible to the Scottish Executive through The Scottish Executive Enterprise and Lifelong Learning Department* (SHEFC, 2000, online, p.1, my emphasis).

Figure 2.2 shows the relationship of the Scottish universities to the Scottish Executive. Scottish universities operate within the portfolio of the Enterprise and Lifelong Learning Department and not the Education Department.

The Enterprise and Lifelong Learning Department has two major agencies: Scottish Enterprise³ and the Scottish Higher Education Funding Council (SHEFC)⁴. Thus the University system in Scotland is set apart from other aspects of the education system and connected closely to the, explicitly economic development focused, Scottish Enterprise. The possibility arises of different agenda within the education system, with the FE and HE sectors having a greater focus on enterprise through their connectivity with the major enterprise agencies than elsewhere in the Scottish or UK education systems.

This linking of higher education and enterprise/economic policy has been stressed by the Enterprise and Lifelong Learning Minister, Wendy Alexander:

In the future our key competitive strength will be about the quality of our infrastructure, [...] and the skills of our people [...] and use our economic development agencies, to make Scotland a leading knowledge economy of the future.

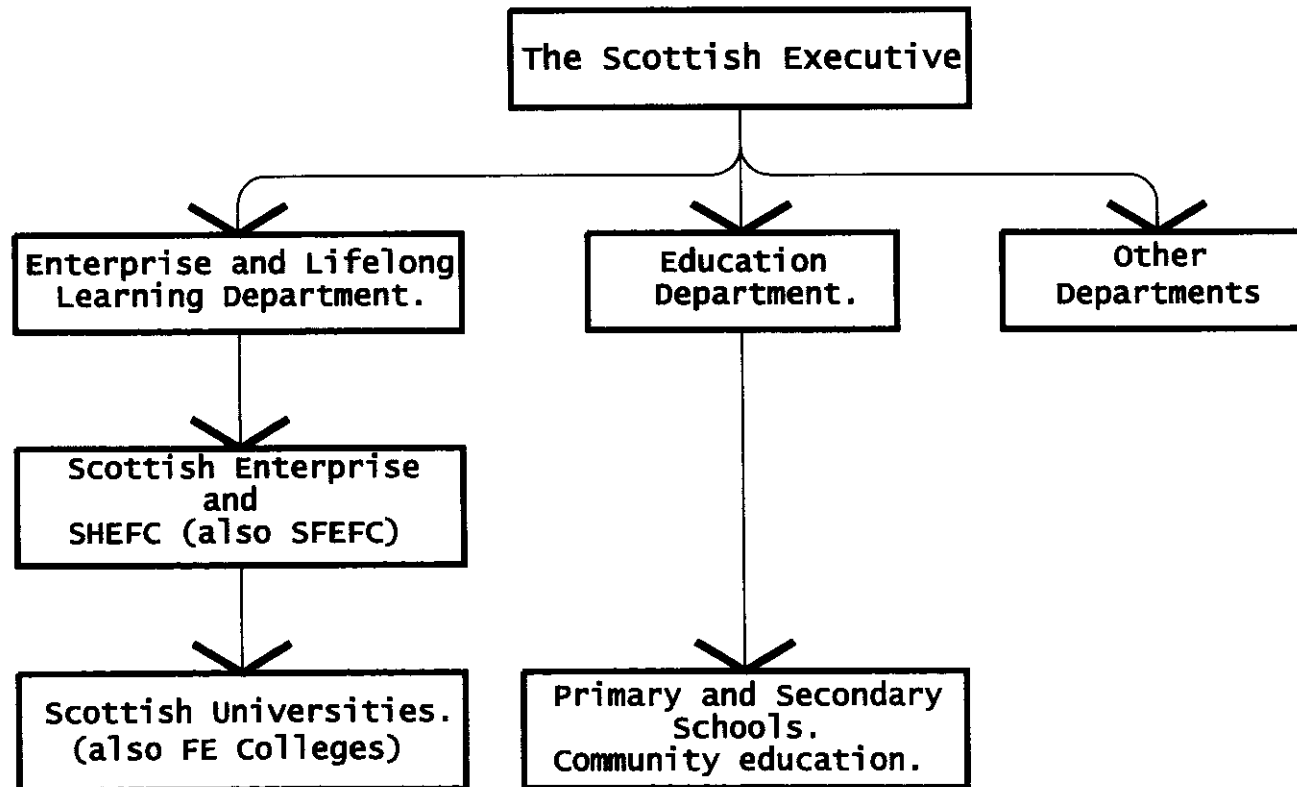
(BBC/ Radio 4, 2001).

³ And Highland and Islands Enterprise.

⁴ And Scottish Further Education Funding Council – SFEFC and SHEFC have the same senior management team.

Fig. 2.2.

**Relationship of Scottish Universities within
the Governance of Scotland.**



The objective is to mould Scotland into a *leading knowledge economy* through efforts led by *our economic development agencies*. The universities are followers with a future defined by others. In this future the role for the universities is specified by Robert Crawford, the chief executive of Scottish Enterprise:

I think that unless economies find ways to include universities in economic development they will always under-perform.[...] No one gets to absent themselves from the global economy. (BBC/ Radio 4, 2001)

Universities are to be at the disposal of government and the economic development agencies, such as Scottish Enterprise, in the furtherance of the development of the *knowledge economy*.

SHEFC's attachment to national economic aspirations finds explicit expression in Objective 3 of SHEFC's 2000/2003 Corporate Plan:

Objective 3

To support the sector's development of highly qualified individuals with the skills and knowledge needed by society and the economy.

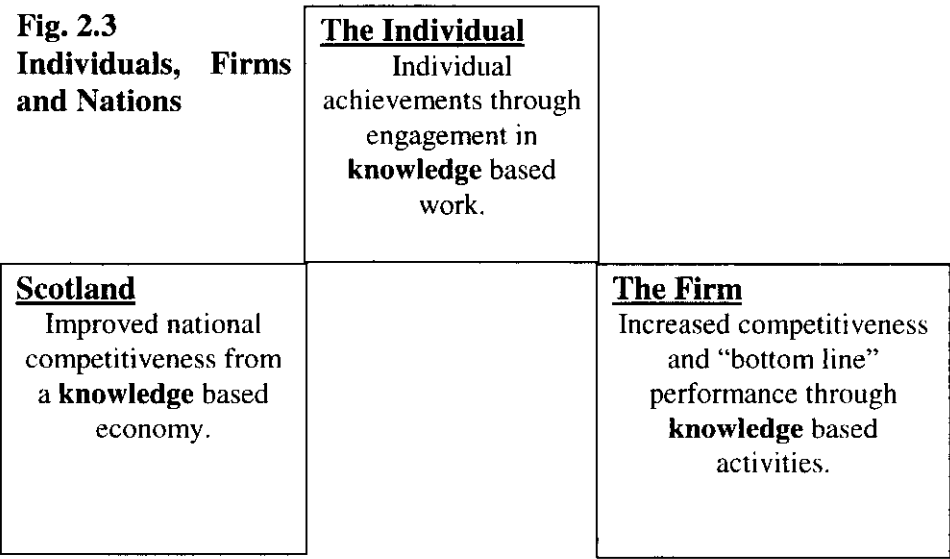
(SHEFC, 2000/2003 Corporate Plan, p.3).

SHEFC (and SFEFC) come into direct contact with the major enterprise agencies through membership of the Joint Lifelong Learning Group (Scottish Executive, 2000). As a member of this group SHEFC has agreed to a *primary shared interest [...] in formal post-compulsory learning that contributes to economic development in Scotland* (p.8) with *emphasis on improved bottom-line performance* (p. 18) for both industry and the economy.

The emphasis of, and language used in, this document is on a *learning market* for lifelong learning to be met by higher, and further, education as providers. Within this market *a balance is to be struck between the skills and knowledge needed and demanded by individuals and the economic development priorities of the country* (p.9). In particular, people are to be given the *opportunity to learn [...] skills relevant to Scotland's economy* (p. 23). Suppliers, including universities are to offer more accessible forms of learning *including more work*

based and part-time opportunities, to meet learners’ and employers’, needs (p. 9). The intention is that *individuals [...] improve their skills and employability throughout life* (p. 9) such that they become better equipped *to succeed within the knowledge economy through a close and lifelong integration of work and learning* (p. 9). The thrust is on individual achievement, within a synonymous definition of work and learning which is consonant with national economic success. However, within this model, the individual may be regarded as isolated. There is no sense of the workplace as a social entity. Indeed the notion of employability is defined in “self” terms, as a personal attribute, as *the ability to move self-sufficiently within the labour market to realise potential through sustainable employment* (p.24, my emphasis). However employability skills are regarded as less industry specific skills and more as *generic, transferable skills [...] and attitudes* (p. 24). Universities are to be key to the provision of these skills. The argument triangulates, because employability skills are regarded as a key requirement for economic competitiveness (p. 24) what might be deemed a virtuous, win, win, win, triangle emerges as shown in Figure 2.3:

Fig. 2.3
Individuals, Firms
and Nations



Knowledge is included within each cell of figure 2.3. However for this figure to work, on a win-win-win basis, there is a requirement for transfer. If learning is targeted at the individual and this increased knowledge is presumed to benefit the firm and ultimately the nation, some transfer mechanism becomes essential.

Theories of learning which regard knowledge as an object located in mind have a problem with the notion of transfer (St. Julien, 1997). As such views of learning as acquisition of objects in mind will have difficulty explaining increased performance by the firm and the nation because of an unsatisfactory account of how knowledge is distributed. What may be needed is recourse to learning theories which regard knowledge as already distributed in social, including economic, action. That is a view of figure 2.3 where knowledge is regarded as saturating the figure rather than as a component within each cell. Such theories may give a more persuasive account of how such a win-win-win aspiration is to be achieved.

2.2.4 The University's Response.

The University is explicit in acknowledging its connectivity to Scottish Executive objectives. It has developed *a Scottish Parliamentary Strategy that links the University Strategic Plan, key achievements [...] with parliamentary objectives* (Glasgow Caledonian University Strategic Plan, p.7). The university unequivocally puts itself at the disposal of the Scottish Executive, and SHEFC, in realising Executive goals. The University Mission includes references to *lifelong learning opportunities, advancement of careers and the commercial development of the regional knowledge base* (pp. 11/12). In furtherance of this mission the University has identified 6 key objectives.

Table 2.1 indicates SHEFC's 8 objectives and compares them with 6 Key Objectives specified in Glasgow Caledonian University's current Strategic Plan. References in the Strategic Plan to lifelong learning (1), to commercial activities (2) and contributing to the economy of the West of Scotland (5) connect, almost automatically, with SHEFC objectives. Embedded in Key Objective 4 are commitments to work closely with professional and statutory bodies and, just like SHEFC, with *Scottish Enterprise and development agencies* (p 17). In addition courses are expected to provide *work experience via strengthened links with employers and using these links increase job opportunities for graduates* (p.17). The emphasis is on employability paragraph 4.2 exemplifies the thrust:

meets the needs of students, employers and society.

Objective 2

To contribute to widening participation in Scottish higher education by assisting institutions to increase equality of opportunity for all students.

Objective 3

To support the sectors development of highly qualified individuals with the skills and knowledge needed by society and the economy.

Objective 4

To support a high quality, flexible and internationally competitive research capacity in Scottish higher education and enhance its contribution to the knowledge-driven economy.

Objective 5

To encourage the strategic development of the sector to ensure its future success.

Objective 6

To help create a policy framework for higher education by advising Government.

Objective 7

To assist Scottish higher education institutions to make continuous improvements in the value achieved for public funds, and to secure effective accountability for the use of those funds.

Objective 8

To achieve value for money in running an organisation that delivers effective policies and is accountable for its actions.

Key Objective 2

To advance research and scholarship and to foster innovative commercial activities.

Key Objective 3

To provide opportunities for all staff to develop.

Key Objective 4

To provide students with educational experiences that deliver high academic standards and lead to nationally recognised qualifications.

Key Objective 5

As a major institution operating in the West of Scotland, to make a sustained and significant contribution to the economic and social development of the region.

Key Objective 6

To manage the University's resources efficiently, effectively and economically.

Higher level skills needs are [to be] met by further developing provision to meet the career and professional development needs of the students and employers. (p.17)

In short, and to use a legal term, there are enough points of contact between SHEFC and the University objectives to allow the legal/ contractual dictum of *consensus in idem* to apply.

2.2.5 The Professional Institutions

A final, and recent, contextual factor is the restructuring of the Royal Institution of Chartered Surveyors from 7 divisions to 16 faculties (RICS, online, 1999) which took place during 2000. The Department of Building and Surveying (BSU) currently runs courses accredited for three of these divisions (Table 2.2).

When totalled, the department's courses are targeted at 88.7%, by membership, of the existing RICS structure - and probably an even greater percentage of the new structure.

The construction management course is geared towards students gaining membership of the Chartered Institute of Building (CIOB). The policies, views, reactions etc. of both these institutions bulk large in Departmental thinking.

:: Table 2.2 :: Courses and their Relationship to RICS Structures.

BSU Courses	Present RICS Divisions (with % age of all members)	Proposed RICS Faculties
Property Management and Development	General Practice (44.7%)	Valuation, Planning and Development, Residential Property, Commercial Property.
Building Surveying Quantity Surveying	Building Surveying (8.8%) Quantity Surveying (35.2%)	Building Surveying, Facilities Management, Construction Dispute Resolution, Management Consultancy, Project Management,
	All other (4) divisions. (11.3%)	

2.2.6 When the RICS said “jump” -----

In 2000 the RICS initiated a new partnership structure with universities. What is of interest is the way in which the RICS set the partnership agenda and the responses of the universities. The stated purpose of the RICS was to strengthen the role of the profession by setting up centres of excellence⁵. The intention in a letter to Heads of Surveying Departments (ref. hod270100), was *to establish genuine partnerships with universities whose courses are capable of meeting or exceeding [...] minimum threshold standards within an agreed period*. These minimum threshold standards were set by the RICS and were, effectively, non-negotiable. The outcome was 15 courses losing RICS accreditation in what the THES (2 Feb. 2001) referred to as *a cull [...] to safeguard standards*.

The response, by the University’s senior management, to the RICS partnering initiative was conveyed (un-minuted) at a meeting with departmental staff on 11th February 2000. It was that the department was to concentrate on gaining RICS partnership status at all cost. Where RICS requirements conflicted with university requirements or policy, e.g. by narrowing rather than widening access, RICS requirements were to prevail. In one move the RICS had asserted its authority, and despite criticism from other professional bodies such as the Chartered Institute of Building (CIOB), it had relegated all surveying departments in the UK into accepting the role of suitors. Secondly, by their actions, the senior management of the university accepted the potency of the RICS in setting the agenda for the education of the professional surveyor.

The Times Higher Education Supplement reported the outcome on 2nd February 2001 as:

Fifteen higher education institutions accredited by the Royal Institution of Chartered Surveyors have failed to be accepted on new partnership arrangements.

The Department of Building and Surveying at Glasgow Caledonian University signed their partnership arrangement on 12th December 2000- slightly less than a year after receipt of the RICS letter.

--- the university asked “how high?”

⁵ The real concern was over-provision of graduate surveyors by universities leading to a glut.

2.2.7 Alternatives.

What requires to be considered is the extent to which these expectations by other stakeholders in Scottish Higher Education, as it relates to the vocational education of professionals within the construction industry, are best met. Are they best met within the present epistemology based on deep/surface approaches to studying/learning as articulated within the constitutionalist perspective? Or would they be better met by reference to the alternatives identified in Figure 1.1?

2.3 Horizons

At the beginning of this chapter mention was made of the phenomenological belief in the horizon. That a *thing* exists in a context or *external horizon* but that there are other *open horizons* within which a *thing* can be anticipated as being *also meant* (Husserl, 1970). Thus the notions of vocational education and approaches to studying/learning and teaching may have *open horizons*. That is to say the notion of approaches to studying and teaching may be embedded in the external horizon of one particular theory but may also have more open horizons in terms of *possible perceptions* within other theories or families of theories and indeed other locations of and perspectives on learning. The first of these *open horizons* can be examined using of Sfard's (1998) and Prawat's (1996) meta-analyses of learning theories. This meta-analysis, however needs discussion.

2.3.1 Sfard's Metaphors of Learning and Prawat's Modern/ Post-modern split.

Learning theories have been classified by Sfard (1998) as either an acquisition metaphor or a participation metaphor whilst Prawat (1996) discusses a modern/ post-modern split. Both Sfard and Prawat agree that learning theories which consider the concept-in-mind as the unit of knowledge can be clustered together (see Table 2.3, partly from Sfard, 1998, p.7, and Prawat, 1996). Similarly, theories which reject this idea, in favour of knowledge as an ability to practice, can be gathered together. Sfard and Prawat use different labels and different measures for critiquing each cluster with Prawat more thorough in differentiating between individual theories within each cluster.

**:: Table 2.3 :: Sfard’s (1998) Metaphorical Mappings (p. 7) and
Prawat’s (1996) Modern/ Post-modern Split. ::**

Acquisition Metaphor	Sfard (1998)	Participation Metaphor
Individual enrichment	Goal of Learning	Community building
Acquisition of something	Learning	Becoming a participant
Recipient (consumer), (re-) constructor	Student	Peripheral participant, apprentice
Provider, facilitator, remediator	Teacher	Expert participant, preserver of practice/discourse
Property, possession, commodity (individual, public)	Knowledge	Aspect of practice/discourse/activity
Having, possessing.	Knowing	Belonging, Participating, communication
-----	-----	-----
Development of concepts	Emphasis	Becoming part of a greater whole.
Competition and solitary achievement	Possible Consequences	Togetherness, solidarity and collaboration.
From possessions within materialist society - we are what we are because of our possessions.	Identity	From part of greater whole. We are who we are from our social identity.
Modern	Prawat (1996)	Post-modern
Inevitable - Prawat not convinced about schemas as possible mediators between mind and world.	Mind/World split	Reconciled – especially in Dewyian “Ideas-constructivism”
Representational: Language as representation of the world.	Tools (esp. Language)	Provided by culture for use by individual, for Action. Use of tools as demonstration of knowledge.
Ignored - no productions. Solutions during problem solving as possibly artefactual	Artefacts	Constructed by individuals using tools during joint, problematic goal directed activity. Solutions implicated as artefacts.

Sfard's analysis develops the implications within each metaphor in terms of differing goals of learning, learning itself, views of the student, views of the teacher etc. She also comments on what is emphasised within, the possible consequences of, and how identity is assumed, within each metaphor and these have been added, below the broken line, to her original table. These units of analyses are presented down the centre spine of table 2.3⁶.

Sfard's and Prawat's analyses are important in terms of the Scottish Executive's win-win-win scenario. The knowledge part of the *knowledge economy* requires to be distributed. Learning theories which regard learning as acquisition of knowledge in mind have to account for how that knowledge can be distributed to the organisational and nation levels. Learning theories which hold that knowledge is already distributed within communities of practice or organisational identity have, at first sight, a ready made solution to this problem.

However, Sfard is not interested in national competitiveness and takes an ecumenical view that each metaphor has something to offer such that:

An adequate combination of the acquisition and participation metaphor would bring to the fore the advantages of each of them, while keeping their respective drawbacks at bay.

(Sfard, 1998, p. 10)⁷

Sfard points out that a learning theory rarely exclusively belongs to one metaphor, e.g. that a theory would be deemed an acquisition metaphor if its dominant thrust was towards the development of concepts and the acquisition of knowledge; however there may be elements of participation in what is, otherwise, an acquisition skewed theory. She also argues that it is difficult to

⁶ Greeno et. al. (1999), focus on achievement and assessment, using a cognitive v situative perspective split, and agree with Sfard's ecumenical thrust but argue that each perspective should be considered using discreet criteria as opposed to Sfard who compares each metaphor using the same units of analysis.

⁷ She does not appear to countenance that the worst aspects may come to the fore with the best aspects excluded.

conduct discourse in one metaphor without references to the language of the other. Thus, when discussing learning within the participation metaphor, we *unwittingly succumb to the rules of the AM-based discourse* such that she doubts *the very possibility of clearing the discourse on learning from any traces of the AM* (p. 9). This is true in both the research literature and in normal conversation. What Sfard does is present a methodological challenge by positing that, in conversations about learning by research participants, they are likely to use the language of both metaphors, possibly because they use both metaphors – just as she advocates.

Sfard's view coalesces with Bruner (1999) who argues that *understanding something in one way does not preclude it in other ways* (p. 157). Bruner appears to endorse a phenomenological notion that multiple understandings, which may contradict each other, are possible in awareness, and that the more understandings one has of *something* the richer one's awareness of that *something* will be. Sfard with her ecumenical *both/and* approach appears to accept this proposition.

Prawat, takes a more *either/or* approach claiming that the theories can be arranged hierarchically with post-modern theories superior. Within his analysis, he emphasises the roles played by *tools* and *artefacts*, as constructions themselves and these are added as units of analyses to Table 2.3. Prawat's concern, as was Husserl's, is with resolving the mind/world split which he, Prawat, detects in mind centred or modern/acquisition oriented theories. His argument is that tools and artefacts play a much more subtle and robust role in resolving the mind/world split within post-modern theories. Within these theories tools are made available by the culture to be used by the individual during activity. The tool-of-tools is language which is made available to the learner as a mechanism for enculturation into society. Language is perceived as a cultural tool rather than as something to represent culture. By gaining facility in using cultural tools the individual is socialised into the culture. In socio-cultural theories, tools are inseparable from the results they accomplish or create. In other words the tool is developed during use or, more correctly, facility in using the tool is developed during use. Because individuals master

tools in much the same way socio-cultural theory emphasises the instrumental nature of tools and commonality in how they are used. In such post-modern theories language, as the supreme tool, are central to participation in practice - to be an expert practitioner requires an expertise in the discourses of the practice. In the mind centred approach language is used to represent the world, whilst in the situated approach language is used for acting in the world. Use of language and discourse becomes central to learning and learning a particular discipline can be seen as a shift from everyday use of language to specialised uses or meanings within the particular discursive community of that discipline (Saljo, 1996). The same is also true of artefacts. Artefacts are the products of individuals, as collectives or consensual domains, working with tools.

Prawat emphasises the use of tools and artefacts but does not go as far as Foucault's view that theories are tools themselves which can be used to analyse phenomena. (E836,SG, p.133). In a sense Sfard's ecumenical approach is closer to this "toollike" view of theory than Prawat.

Table 2.3, therefor, combines Sfard and Prawat and provides units of analyses which can be applied to individual theories. It can be used in two ways. In Prawat's terms the table presents as an *either/or*. The teacher is either a *facilitator* or an *expert participant*. In Sfard's, *both/and*, terms the teacher is both a *facilitator* and an *expert participant*. In Prawat's terms language is best understood as a tool for use in the world and not as a representational device to symbolise the world. In Sfard's terms language has both representational and actional components. For Prawat knowledge is the ability to participate in valued practices and not a personal possession. Sfard holds that it is convenient to think of knowledge in both terms, sometimes as a personal possession and sometimes as an ability to participate in practice. Neither form of knowledge is superior; one view is convenient in certain contexts and the other is convenient or relevant in another set of circumstances.

Whilst Prawat's agenda is to identify a single unified, best, theory which attends to the mind/world split, Sfard's approach is more plural in seeking compatibility or comensurability between theories. Specifically Sfard holds that, by processes of interrogation, each metaphor keeps the other vital. She argues that one

metaphor should not be allowed to or, indeed, is able to dominate discourse. Neither metaphor should be regarded as having a stranglehold on the truth. Instead they should be regarded as perspectives on learning implying that more than one perspective is allowed and that by combining perspectives a more complete account can be obtained. In this sense she is close to a phenomenological account advanced by Bruner (op. cit.). Paradoxically however Sfard is also more consistent, than Prawat, with postmodernism with her inclusive emphasis on *both/and* as opposed to modernism's emphasis on *either/or* (Natoli and Hutcheon, 1993).

2.4 Summary.

It has been argued in this chapter that the constitutionalist perspective, vicariously, through the notions of deep and surface approaches to studying, has created its own context in terms of support structures reified into higher education systems. The constitutionalist perspective is not recognised by either Sfard or Prawat as a mainstream learning theory, but what they do is provide a meta-analysis of learning theories. This is cogent because they reveal distinguishing features between the two families of theories modern/ acquisition and post-modern/ socio-cultural. As such both Sfard and Prawat offer interesting tools, in the central spine of table 2.3 with which to analyse a particular theory. Later, in Chapter 4, they will be applied to the constitutionalist perspective which is not dealt with by either Sfard or Prawat. More importantly these tools can factor into the research method, as they can be used to make sense of staff and student conceptions of knowledge and learning. In effect they offer pre-defined "nodes" around which to cluster the comments and observations from interviewed participants in the empirical part of the study.

In addition they offer analytical tools with which to test their own positions. These positions, Sfard's ecumenical *both/and* and/or Prawat's hierarchical *either/or* formats, in effect, relate back to the three hypotheses presented in Chapter 1. Again, this is cogent as firstly, Sfard, in particular, argues a "what

should be” case rather than a “what is” case and secondly neither Sfard nor Prawat present empirical evidence to support their respective positions.

The nature of knowledge and the way it can be distinguished from knowing is central to both Sfard’s (op. cit.) and Prawat’s (op. cit.) analyses, arguably the other criteria in Table 2.3 follow from this initial analysis. This, in turn, raises, as an issue, the nature of knowledge used by professionals. Is it distinguishable from other forms of knowledge or from knowledge used by other non-professionals? This will be attended to in the next chapter.

What also appears to emerge within this chapter are differing competing accounts of how vocational education can be conceptualised within the Scottish Higher Education system. These two accounts will be used in succeeding chapters. One account holds that knowledge and learning can be conceptualised by reference to epistemic arguments with the nature of valid knowledge and what constitutes learning debated with reference to these arguments. In succeeding chapters this will be referred to as an educationalist account of knowledge, particularly as used by professionals (Ch.4), and of learning (Ch. 5). A second conceptualisation is premised on economic, at the national level, and business, at the organisational level, imperatives with emphasis on the knowledge economy with knowledge as a key competitive resource for both nations and organisations. This implies an imperative for the management of knowledge and the management of its creation (knowledge management) with learning a matter of creating intellectual capital value. Knowledge and learning become key concerns for the management and business communities, of which the RICS may be regarded as one. In succeeding chapters this will be referred to as a managerialist account of knowledge, particularly as used by construction professionals (Ch. 4), and of learning (Ch. 5).

:: CHAPTER 3 ::

:: The Nature of Knowledge(s) used by Professionals ::

3.1 Introduction.

This chapter will examine the nature of knowledge used by professionals particularly in their day-to-day practice. In the previous chapters two possible accounts of higher education were developed. Firstly an educationalist account with its origins in debates concerning the relationship of higher education to modern and post-modern society. A second, managerialist, account emerged which has its origins in the role of higher education as a key contributor to national, UK and Scottish, aspirations to be competitive knowledge based economies. These two accounts will be developed within this chapter, the former because a significant proportion of the student experience is university located and the latter because a significant proportion of the student experience, through part-time modes of study and supervised work experience, is located within organisational contexts.

Traditionally, professions have been distinguished from other occupations by reference to their possessing an extensive body of theoretical knowledge which is presumed to dictate complex practices. More recent accounts, e.g. Eraut (2000) from an educationalist perspective, stress that professionals, because of the complexity of practice, rely on, and use, forms of knowledge other than theory. Eraut (op. cit.) refers to these other forms of knowledge as *tacit knowledge*. Moreover, when professionals do use theory they use it in ways often not anticipated within the theory. Similarly, from the managerialist perspective these “other” forms of *tacit* knowledge have been identified as key ingredients to the competitiveness of organisations (von Krogh et al. 2000).

Implied here are conflicting accounts of the types of knowledge needed in complex professional practice, particularly within elaborate organisational settings, between theoretical and/or “other” knowledges. This, in turn, touches on both Sfard’s (op. cit.) and Prawat’s (op. cit.) analyses discussed in the previous chapter. Both of their analyses are centred on the nature of knowledge, along with an associated conception of learning. Conclusions concerning the other dimensions, within the central spine of Table 2.3, largely flow from this initial assessment about the nature of knowledge. In short, if knowledge used by professionals can be shown to be of a specific type or

exhibit particular characteristics, this will have implications concerning views on *learning*, the *teacher*, the *student* etc. Given that the focus is on degree programmes intent on educating future professionals for the construction industry the nature of professional knowledge, as a potentially distinctive variant, has to be considered.

3.2 Knowledge(s) used by Professionals.

To be professional requires more than being expert in the use of the technologies available. Historically professionals have been identified as having a duty to profess, where professing has been understood as a public avowal to perfect one's life (Koehn, 1994). In this conception the notion of professionalism extends beyond prescription of advanced technical competencies to include ethical, moral, social and political considerations with a professed commitment to altruism. Walker (1996) argues that professionals can and should contribute significantly to the major problems facing society. In addition, professionals have political power disproportionate to their numbers in society exercised through powerful professional bodies. These factors require an education focused beyond advanced or complex technical competencies otherwise the risk is the creation of highly technically competent barbarians unable to meet societal obligations yet possessed of significant political influence.

None-the-less it is the nature of expertise which receives much attention in the literature. Various authors have attempted to develop taxonomies of knowledge used by professionals by looking at its various component parts. Although different terms are used by different authors this usually dissolve into a distinction between theoretical knowledge and non-theoretical knowledge as shown in Table 3.1.

Some, e.g. Polanyi and Reason, are not specifically concerned with knowledge used by professionals whereas others e.g. Taylor, Schon, Eraut and Von Krogh et al. are interested in knowledge used in organisational contexts. It is within these last four where a more particular account of knowledge used by professionals can be found. Two views are possible. Firstly, that knowledge used by professionals is a mix of different types of knowledge and that this mix may vary from profession to profession. Alternatively, that professionals make great use of and rely upon one form of knowledge in preference to other forms. Traditionally this has been expressed as theoretical knowledge prescribing practice. A more recent formulation

is that professionals rely greatly on tacit knowledge with occasional recourse to theoretical knowledge (Eraut, 2000).

Table 3.1 Types of Knowledge used by Professionals.

	THEORETICAL	NON-THEORETICAL
Polanyi (1966)	Public/ articulated	Personal – tacit/ focal
Reason (1994)	Propositional	Practical Experiential Presentational
Schon (1991)	Propositional	Personal Process Tacit.
Taylor (1997) Drawing heavily from Eraut (1992)	Propositional	Personal Process
Eraut (2000)	Codified	Personal Knowledge. <ul style="list-style-type: none">• Procedural knowledge.• Process knowledge.• Codified knowledge in its personalised form.• Experiential knowledge.• Tacit knowledge.
Von Krogh et al. (2000) (from a managerialist perspective)	Explicit	<ul style="list-style-type: none">• Tacit• Individual• Social

Although they use different terminology most commentators agree the main features of theoretical, codified or propositional knowledge. That it is representational rather than actional, that it is explicit or formulated into explicit representations of the world in the form of theories etc., and that it is emphasised in formal learning within universities.

There is more disagreement on the contours of the other forms of knowledge. Both Taylor and Eraut, however, appear to agree with Polanyi’s original thesis and emphasise its *personal* nature. However Polanyi (1966), although holding that knowledge was personal, insisted it was not private – rather that it was essentially social in nature. Polanyi’s social aspect of knowledge is neglected in both Taylor’s and Eraut’s accounts of knowledge used by professionals. Taylor distinguishes between *personal* and *process* whilst Eraut uses the term *personal* but identifies 5 other forms of knowledge under this banner. In so doing, both Eraut and Taylor

emphasise a mind centred view of all types of knowledge. Propositional knowledge is defined in terms of *personal meaning* given to it whilst *personal knowledge*, by definition, is personal. Similarly Taylor's account of *process knowledge* has an *acquiring, deliberative* (p.18) flavour.

Taylor lays greater emphasis on the interwoven nature of professional knowledge, stressing that the relative importance of each type will vary according to the profession. In engineering, propositional knowledge may be highly valued because it guides or directs practice, whereas in nursing personal knowledge may enjoy a higher status, being less directional and be more a *critical informer of practice* (p. 20). In both accounts the key issue is a split between abstract/theoretical knowledge and any/all other types¹ and a stress on the *personal* nature of all knowledge(s). In short, the debate on professional knowledge, as personal, has been framed in what Sfard (op. cit.) would recognise as acquisition terms.

Whilst acknowledging that the knowledge used by professionals is interwoven, Eraut lays greater stress on the notion of tacit knowledge and the associated notion that all, including theoretical, knowledge is used tacitly². This coincides with an emerging interest in tacit knowledge within management literature, for example by *those involved in intellectual capital* (Sveiby, 1997) - such as expressed in Scottish Executive and SHEFC in their documentation and by David Blunket (Ch. 2).

3.3 Tacit knowledge.

As implied two separate, but not necessarily competing, accounts of tacit knowledge are available:

1. The educationalist account which seeks to define it within an overall epistemologically driven debate.
2. A managerialist account which identifies it as a key competitive resource within knowledge economies at the centre of national (UK and Scottish) and organisational strategies discussed earlier.

¹ Mounce (1997) makes an interesting distinction by arguing that *without the certainty of practical knowledge, we should no longer know what counts as being certain in theoretical inquiry* (p. 13). Mounce is arguing that theoretical knowledge cannot sustain itself as just an intellectualisation of practice. Rather practice is a form of knowledge in its own right whose *certainty* must be a priori to the fashioning of theoretical knowledge

² Livingstone (2000) identifies the practice – theory split, but from a different perspective. He refers to it as *underemployment of knowledge* and *underutilisation of investment in learning*.

Tacit knowledge is knowledge, usually expressed as possessed by individuals, which cannot be articulated or accounted for (Eraut, 2000). This last feature is usually considered as an aspect of the knowledge rather than as an incapacity on the part of the knower to articulate it. The notion would include, at snooker, being able to “pot” the red ball and screw the cue ball, off a cushion, back onto the black ball (McCormick, 1999). The outcome may, or may not, be capable of explanation within the laws of dynamics³. What is important is that the player does not do the calculations prior to playing his shot. He/she may be capable of doing the calculations or, more likely, he may be incapable of such calculations.

Thus tacit knowledge can take three forms:

- knowledge which is uncoded - or has been deemed not worthy of codifying.
- knowledge which is codified but unknown to a person carrying out some action to which the knowledge can be directed.
- codified knowledge which is known to such a person but which is set aside or not directly referred to during action - i.e. codified knowledge which is used tacitly.

It is this last form which Eraut holds is central to professional practice. The professional practitioner will probably be aware of the relevant codified knowledge. However he/she does not constantly refer to it, preferring to set it aside or place it in the background during routine, but complex, practice. However when a novel problem or context presents itself the professional practitioner will draw more directly on his/her understanding of codified knowledge. This would allow for a practitioner working with tacit knowledge and turning to codified knowledge contingent on the task in hand. In short, in professional practice, codified knowledge is often tacit when applied.

3.3.1 The educationalists’ accounts of tacit knowledge.

As already mentioned, tacit knowledge is held as essential to expert professional practice (Eraut, 2000). 5 stages or levels are identified by Eraut in the novice – expert shift. At level 1 the novice maintains a rigid adherence to taught rules or plans. He/she has little situational perception and is unable to take context into

³ In this case it is.

account. At level 5 the expert no longer relies on rules, guidelines or maxims although he/she will be aware of, and understand, these. He/she has an intuitive grasp of the situation based on a deep tacit understanding of context. Analytical approaches are used but only in novel situations, when problems occur or when conclusions require justification. The expert also has a *vision* of what is possible. Thus tacit knowledge has key components which include situational understanding, that is, an insight of the complexities of a situation or context where practice is to occur. In this account, such situational understanding is based largely on extensive experience and is brought to the context by the knower. A second component is an increase in intuitive decision-making which involves pattern recognition and an ability to respond to developing situations. Such responses may be based on the tacit application of tacit rules or tacit theories. Indeed these rules may be explicit and/or capable of reasoned justification, but their distinctive feature is that of being tacit at the moment of use. Moreover, such tacit knowledge is usually considered as being capable of being articulated or made explicit through reflection.

Although Eraut works within an acquisition, knowledge-in-mind, perspective he does allow that tacit knowledge is acquired through socio-cultural processes, holding that knowledge is shaped by the context(s) in which it is acquired and used:

Knowledge of contexts and organisations is often acquired through a process of socialisation through observation, induction and increasing participation rather than formal inquiry. Thus norms, local discourse and other aspects of an organisational or occupational culture are acquired [...] by processes which implicitly add meaning to what are explicitly interpreted as routine activities. (p. 122)

Eraut allows for a socio-cultural definition of tacit knowledge but retains a role for personal acquisition for the learner. Eraut favours a view of the individual resituating his/her knowledge in new socio-cultural settings and integrating it with other knowledge acquired through participation. This view is given preference over a view of situated learning, which he rejects, because it holds that knowledge *is already present in established activities and cultural norms* (p. 132). According to Eraut, tacit knowledge is acquired rather than appropriated as in situated or socio-cultural views of learning.

Another view can be developed of tacit knowledge as a form of meta-knowledge. Again this stems from its definitions. Accepting these definitions implies that tacit knowledge is difficult to capture, explicate, codify or replicate especially as, often, even those possessing it cannot fully describe it. Such elusiveness makes theory building from tacit knowledge extremely problematic. This is not to say that accepting the idea of tacit knowledge requires the rejection of the idea of theoretical knowledge. As mentioned theoretical knowledge can be used tacitly. In this latter case, tacit knowledge might even be considered as a control mechanism applied when using theoretical knowledge. That is, tacit knowledge might be regarded as super-ordinate to theoretical knowledge in that it represents a knowledge of when and how to use theory. Bruner (1996) does not use the term *tacit* but gives an account consistent with the notion when he talks about being knowledgeable as being the ability to manage objective knowledge (pp 60 - 63).

Another possible connection with theory is through the relationship between tacit knowledge and expertise. Expertise is sometimes configured as:

Professional know-how + the ability of reflection (Sveiby, 1997).

Know-how may be highly tacit and includes the skills to act in social settings. As such the rules have been established by other actors, such as professional institutions. Expertise implies knowing when to submit to the rules of a domain or tradition and when to set these rules aside. One additional role for reflection, in this process, is to seek to influence the rules of a domain or tradition. Within this formulation reflection is less an individual act and more of a relationship between professional actors and a social system of rules.

3.3.2 The managerialist accounts of tacit knowledge.

Within managerialist accounts tacit knowledge is considered of strategic importance since it, rather than the codified knowledge within the organisation, may represent a defining competitive advantage (Allred, 2001; Baumard, 2000). The strategic value of tacit knowledge lies in the same elusiveness which makes theory building from it problematic. Unlike an organisation's codified knowledge tacit knowledge cannot be copied, reverse engineered etc. by competitors. As such sustainable competitive advantage is rooted in the tacit knowledge learned and held by organisational members.

However the organisation is an inanimate entity populated by actors in much the same way as a community of practice— i.e. it is a socio-cultural phenomenon. Indeed Von Krogh et. al. (2000) regard the organisation as an envelop for various *enabling contexts* - a notion he claims extends the idea of community of practice found in socio-cultural theories of learning. Thus, despite a managerial focus on criteria such as profitability, the organisation, especially when considered as operating in a knowledge economy, can be conceptualised as a community of learners or as an envelop containing various communities of learners. Within such a linkage of work and learning the organisation becomes both a community of learners and a community of practitioners. This view encourages Baumard (1999), in contrast to Eraut, to claim that tacit knowledge is essentially social, rather than personal, in character. It represents the knowledge that actors have of each other in terms of expectations, intentions, motives and “territories”. It is born from experience of social practice, it suggests what approach to take with different people in different contexts. As such, it, rather than organisational codified knowledge, forms the basis for much of human judgement and decision making within the organisation/community of practice. Moreover it is not acquired in the classroom but primarily through experience and working with expert others. Tacit knowledge is to be found distributed within an organisation’s several practices with its codified knowledge found in its mission statements etc. The model of the workplace as one where work and learning become inextricably linked allows the notion of tacit knowledge to be connected with communities of practices, with learning being the appropriation of such knowledge by legitimate peripheral participants (Lave and Wenger, 1991).

This point is recognised by Baumard (1999) and Senker (2000). Baumard (op. cit.) explicitly connects the notion of tacit knowledge with Lave and Wenger’s (1991) idea of knowledge being located within communities of practice whilst Senker (op. cit.) agrees with Baumard that tacit knowledge is to be found amongst skilled members of a community of practitioners engaged in problem solving behaviour. Quoting from Millar et. al. (1997) he states:

Skilled members of a community of practitioners [...] are often “unaware of the details of their problem solving behaviour, the rules they follow and the information they draw on”.

(Senker, 2000, p. 231 quoting Miller, Demaid and Quintas, 1997)

This reference to problem solving behaviour is important as it is through this process that new knowledge is created within the community, allowing a view of the community of practice as more than just conservers of knowledge. None-the-less this last characteristic is also important. Baumard (op. cit.) points out one characteristic of communities of practice is their capacity to contain and maintain expertise (p. 210). In other words they are both generators of knowledge and repositories for expertise and it is within communities of practice that an organisation's strategically important tacit knowledge is preserved:

If these communities [of practice] preserve the organisation's tacit knowledge, they do so by permanently renewing it; the suppression of a community of practice has weighty consequences for an organisation. (p.211)

What Baumard (op. cit.) and Senker (op. cit.) do, as opposed to Eraut, is connect tacit knowledge in the workplace with situated theories of learning (Chapter 4). However, like Eraut, they remain fixed to an metaphor of knowledge as something to be acquired (Sfard, 1997).

Because of a perceived static quality in the community of practice model, Von Krogh et al. advance the idea of *enabling contexts* (p. 179). The main distinction is that a community of practice represents a place where *members learn knowledge that is embedded there* (p.180) whereas an *enabling context* helps create new knowledge. The structure of the *enabling context* differs from that of a community of practice. In the latter the boundaries are regarded as stable and *firmly set by the task, culture, and history of the community* (p.180). An *enabling context* is much more fluid as organisational members who interact within the context come and go. Von Krogh et al. (op. cit.) proceed to argue that their version of an enabling context has a more urgent, *or here-and-now quality* (p.180) than Lave and Wenger's communities of practice.

Von Krogh et al's notion of enabling context is unnecessary if Senker's account of communities of practices being mainly engaged in problem solving or Rogoff's (1995) account of how participatory appropriation dissolved boundaries were accepted. It would be through these community based exercises in authentic problem solving that new knowledge would be created. None-the-less it does highlight the extent to which the situated learning theories have been accepted within

organisational management literature. This literature is more concerned with effective organisational performance through notions such as *knowledge management* etc. than learning per se. That is not to say they discount the notion of learning or indeed that learning is not in focus- it is the means rather than the end. It also challenges the accepted view, included in the constitutionalist perspective, that learning needs to be in focus for it to happen.

3.4 Summary

In terms of knowledge used by professionals what appears to emerge is a split between apersonal and personal knowledge where apersonal is the corpus of abstract, theoretical or propositional knowledge located in the public domain which defines a particular profession. Once this public knowledge is *acquired*, by the student, it becomes *personal* or private. In terms of the metaphors presented by Sfard and the modern/ postmodern split of Prawat, the accounts of professional knowledge, in its various manifestations presented in this chapter, appear predominantly skewed towards an acquisition/ modern conception of learning and knowledge. This is not just true of conceptual knowledge but holds true for all the other forms mentioned. Experiences are personalised into acquired experiential knowledge. Skills in expediting processes are reified into acquired skills.

Within accounts of knowledge used by professionals tacit knowledge is regarded as important by both educationalist and organisational theorists. Eraut implies that as professional practice becomes more complex they become more reliant on tacit knowledge whilst, within a managerialist account, tacit knowledge is regarded as a key competitive resource. If socio-cultural phenomenon such as organisations, and nations are to prosper, within knowledge economies, tacit knowledge is going to have to be maximised.

Similarly, and importantly in the context of the next chapter, tacit knowledge is considered as a personal acquisition. This is especially true in the educational account of tacit knowledge but only partly true in the managerial account. In the latter account there is a greater acceptance of the potential value of socio-cultural learning theories. This is important given the political/economic imperatives set by the Scottish Executive for higher education. If the management literature emphasises (and it has not reached that stage yet) the advantages, in competitive terms, of the

application of socio-cultural theories within higher education, this will connect more robustly with Scottish Executive aspirations.

The next chapter, with reference to mainstream learning theories, will look at the consequences of introducing such theories into the debate about professional education and practice with reference to two different locations of learning - the lecture theatre and the workplace.

:: CHAPTER 4 ::

::Approaches to studying and the Constitutionalist Perspective – A theory for all occasions with no alternatives? ::

4.1 Introduction.

If the previous chapter was concerned mainly with the nature of knowledge used by professionals, this chapter will concentrate on learning. The chapter has two main aims.

Firstly, it will examine the constitutionalist perspective's claim to be a one right learning theory for all aspects, including vocational, of higher education. As mentioned in Chapters 1-3 this will be done by reference to the analytical criteria developed by Sfard and Prawat (op. cit.) using the headings identified in the central column of Table 2.3. This is cogent as neither Sfard nor Prawat recognise the constitutionalist perspective of Marton and Booth, which has sequestered the literature on approaches to studying and teaching as a mainstream learning theory. With its roots in phenomenology it is anticipated that this theory, and the attendant notions of approaches to studying and teaching, is likely to be predominantly, a modern (Prawat)/acquisition metaphor of learning (Sfard).

Secondly, this chapter will also focus on alternative contexts or *open horizons*. These have been identified in Figure 1.1 as:

- alternative theories of learning,
- alternative locations for learning and
- alternative perspectives on learning.

Alternative theories of learning will include socio-cultural theories which regard learning as processes of enculturation into valued practices within communities of practitioners through apprenticeship or legitimate peripheral participation. Some of these theories are explicitly, almost exclusively, practice oriented e.g. Lave and Wenger (1991), Rogoff (1995), and some of these theories have a classroom emphasis or dimension e.g. Rogoff et al. (1996), Cobb (1999) and Roth (1999).

Alternative locations for learning include the campus and the workplace. This is significant given the different exposures to the workplace by students within the department – some have no formal exposure whilst some are part-time students employed in appropriate practices. These alternative locations, structured into course provision, beg the question as to the extent to which the constitutionalist perspective, and indeed alternative socio-cultural learning theories, are able to inform practices in both these venues.

In turn, like knowledge discussed in Chapter 3, workplace learning can be examined from two perspectives - the educationalist perspective and the managerialist perspective. The former concentrates on how individuals learn within workplace settings whilst the latter focuses on learning as a key competitive strategy for the organisation. Workplace based learning, like knowledge in the workplace, becomes a management concern. Such a concern may result in a different account of what constitutes effective learning (and valid knowledge) in the workplace from that obtained from an educationalist perspective. This, in turn, may take us full circle by implicating references to different learning theories.

This latter focus, of what constitutes effective learning in competitive organisational settings, may coalesce with national agenda, at both UK and Scottish Executive levels, for a nationally competitive knowledge based economy in which the universities will be expected to participate (Crawford/ BBC/ Radio4, 2001).

4.2 The approaches to studying and teaching and Marton and Booth's Constitutional Perspective.

In Chapter 1 it was suggested that, vicariously through the notions of deep, strategic and surface approaches to studying, the constitutionalist perspective of Marton and Booth (1997) has been the dominant theory of learning in the UK higher education sector. In effect Webb (1997a/b) argues that for the last 20 years there has been no alternative considered. This domination has been reflected in Marton and Booth's (op. cit.) presentation that their idea of learning

is a one best theory which is superior to *individual constructivism* (p. 6) and *social constructivism* (p. 11).

With its first formulation by Marton and Saljo (1976 a/b) the literature on approaches to studying/ learning, mostly predates but, still comes from the same phenomenological stable as Marton and Booth’s constitutionalist perspective.

4.2.1 What are the Approaches to Studying and Teaching?

Entwistle (1997) has summarised approaches to studying as shown in Table 4.1.

Table 4.1 Defining Features of Approaches to Learning (Entwistle, 1997, p.19)

Deep Approach	<i>Transforming</i>
<i>Intention</i> -----to understand ideas for yourself	by
Relating to previous knowledge and experience	
Looking for patterns and underlying principles	
Checking evidence and relating it to conclusions	
Examining logic and argument cautiously and critically	
Becoming actively interested in the course content	
Surface Approach	<i>Reproducing</i>
<i>Intention</i> -----to cope with course requirements	by
Studying without reflecting on either purpose or strategy	
Treating the course as unrelated bits of knowledge	
Memorising facts and procedures routinely	
Finding difficulty in making sense of new ideas presented	
Feeling undue pressure and worry about work	
Strategic Approach	<i>Organising</i>
<i>Intention</i> -----to achieve the highest possible grades	by
Putting consistent effort into studying	
Finding the right conditions and materials for studying	
Managing time and effort effectively	
Being alert to assessment requirements and criteria	
Gearing work to the perceived preferences of lecturers	

Each approach has an intention and a strategy dimension. The deep approach has an intention of understanding ideas for oneself with a series of strategies beginning with *relating to previous knowledge and experience*.

Prosser and Trigwell (op. cit.) are more explicit in characterising approaches to teaching in intention/ strategy terms. Their binary is essentially as shown in Table 4.2.

**Table 4.2 Prosser and Trigwell’s (1999) Approaches to Teaching as
Intention and Strategy ::**

CCSF	V	ITTF
<i>Intention – Conceptual Change</i> <i>Strategy – Student Focus</i>		<i>Intention – Information</i> <i>Transmission</i> <i>Strategy – Teacher Focus</i>

Thus the intention of constituting conceptual change in the student is to be brought about by adopting the focus of the student throughout the learning process in terms of how he/she currently understands a concept. Focusing on both preferred options: the deep approach prioritises understanding ideas and the CCSF approach intends conceptual change. In other words the idea or concept is king in both preferences. This would suggest in Sfard’s terms that the approaches literature is concept acquisition oriented. This is partially confirmed when the history of the approaches literature is examined.

It has been suggested that the research into approaches to learning grew out of information processing theory (Biggs, 1993). However Entwistle (1997) has claimed that the research in approaches to learning was predicated on a rejection of methods which imply reductionism in favour of *an alternative paradigm [which] involves approaches to research rooted in phenomenology which derive from a direct exploration of students’ experiences of learning* (p. 12/ 13).

Entwistle claims that the work into approaches to studying sought a move towards a better understanding of studying within the classroom, with a rejection of abstractions. Webb (1997a/ b), a critic of the *approaches* literature, allows that the deep/surface approaches moved away from the view that individuals brought specific attributes towards learning encounters and towards the idea that the learning environment informed the approach individuals adopted. In other words, context was acknowledged as significant to learning. A context of particular concern is the assessment regime. Students who *focus on course requirements* are then “guilty” of a surface approach and those who *are alert to assessment requirements* “guilty” of a strategic approach.

Entwistle (with Marton, 1994) adheres to a knowledge object/ concept-in-mind view of knowing when they describe how intense studying creates knowledge objects in mind. This is captured within Entwistle's attitude to study inventory (ASI) through a privileged position for conceptual understanding. The deep approach emphasises a willingness to engage with difficult conceptual propositions. In the inventory "things" are understood (Q1). Reflection is venerated with lectures and books as triggers for self questioning (Q5), understanding what is read is important (Q9), as is reflective abstraction (Q13)¹. Positive responses to these four questions are indicative of a deep approach. Within the inventory neither practice nor participation features as aspects of any approach. Nor is there much allowance provided for knowledge being contested. The approaches literature is expressed within a concept as neutral view of knowledge. Knowledge concepts explored by Entwistle and Marton and Booth (1997) typically come from the physical sciences, e.g. momentum, and are presented as having one right answer and being objective and value neutral. What is presented is a view of knowledge as uncontested, value free and constituted as knowledge objects in awareness. In short, the deep approach to studying/learning, as measured by Entwistle's inventory, is embedded in the acquisition massif of Sfard's metaphors. In the surface approach, the emphasis is on *committing to memory* and *unrelated "bits" of knowledge*. *Procedures* feature in the surface approach to be memorised, insinuating procedural knowledge is both surface and retained in memory as some sort of impoverished knowledge object. Again the evidence is that the surface approach is consistent with a Sfardian acquisition metaphor.

Prosser and Trigwell (1999), examining attitudes to teaching, contend that:

[..] in any act of learning, students simultaneously engage in three successive phases – acquiring, knowing and applying. (p. 17)

Acquiring conceptual knowledge is accorded foundational status and allows later application. Progress by the student can be identified by assessment strategies which reveal their changed conceptual understanding of the subject

¹ These numbers refer to questions as they appear in the current version of the ASI.

(Q5 in Prosser and Trigwell's ATI). This will usually be achieved through studying these concepts. If good teaching requires an *intentional* accent on conceptual change it, also requires an appropriate *strategy of student focus*. This strategy is predicated on discussion, talk, conversation etc. - in short, discourse. The lecturer requires to be more than someone *who should know the answers to any questions that students may put to them* (Q13 of the ATI). Thus the "good teacher" is not just an expert in the conceptual subject matter of the domain but also has a strong discursive capability. However this discursive dimension is limited to revealing the student's focus to the teacher; it is not intended to examine, through negotiation with the student, the extent to which knowledge may be contested. If a contested dimension to knowledge emerges the approaches to teaching literature has no mechanism to cope with it.

A paradox appears to emerge within the *Approaches* literature in that Entwistle has developed an inventory which appears to be extremely acquisition oriented in its flavour. Prosser and Trigwell also hold to an explicit acquisition model of learning yet recognise, within their inventory, that there are potent socio-cultural elements, in terms of the teacher/ student relationship, in the construction of knowledge. The account of the teacher, found in the ATI, ascribes a role to him/her as mediator between more sophisticated ways of knowing and the limited knowing of the student. The teacher is better able to interpret an uncontested reality and is charged with bringing the student to these more complete interpretations of this uncontested reality.

As mentioned, the literature on approaches to studying predates the development of a coherent learning theory. This was developed by Marton and Booth (1997) and has been referred to as the constitutionalist perspective. In terms of this chapter the constitutionalist perspective is tested against the criteria provided by Sfard and Prawat in chapter 2 and outlined in Table 2.3. In addition criticisms levelled against it in terms of its neglect of discourse and a contested view of knowledge will also be addressed.

4.2.2 The Constitutionalist Perspective as a modern /acquisition theory.

The constitutionalist perspective on learning is, according to Entwistle (1997) and Marton and Booth (1997), derived from Husserlian phenomenology. If this

is accepted at face value then some of the key tenets of Husserl can be expected to be found in the theory and revealed using the analytical framework developed from Sfard and Prawat, as presented in the central spine of Table 2.3. These would include a distinction between the objectivity of knowledge and the subjectivity of knowing with learning as a coming to a better understanding of a phenomena through setting aside our current views and prejudices – a process referred to as bracketing the natural attitude in the epoche. Subsidiary notions also should be expected, such as knowledge being an accumulation of different, often competing, perspectives about a phenomenon and a horizontal nature of knowledge allowing knowledge to be resituated in new contexts.

Embedded in the constitutionalist perspective are two views of learning and knowledge. The first refers to learning by studying. During intense studying for exams Entwistle and Marton (op. cit.) detected the creation of *knowledge objects* as conceptual understandings constituted through intensive academic study. A knowledge object is:

*a personal construction providing a memorable framework which holds together and summarises **complex interconnections** created in the process of developing conceptual understanding.*

(Entwistle and Entwistle, 1997 - my emphases)

For Entwistle and Marton (op. cit.) they are different from schemas as they *do not require a raft of other abstract constructs to make sense of them* (p. 175). What is important is the personal nature of *knowledge objects* and the concurrent emphasis on conceptual understanding. As in the *Approaches'* literature the concept is king and both knowledge objects and concepts are, as in Eraut's (2000) account of tacit knowledge, personal to the individual. Moreover, unlike tacit knowledge, these concepts are formed mainly by studying, at least in Marton and Entwistle's (op. cit.) version of things.

A second view of learning, and associated view of knowledge, derives from Marton and Booth's (op. cit.) concept of the *architecture of variation* (pp 185 et seq.) which regards learning as additions of differing perspectives to an existing stock of perspectives. Knowledge is the sum of these perspectives held by the

individual. The *architecture of variation* implies that each perspective is autonomous in awareness, indeed that awareness can cope with perspectives which contradict each other. There is not the same impulse for coherence which Prawat associates with schema theories. Difference is valued as much as, if not over, coherence and differentiation is emphasised as well as integration.

At one level the notion of the *architecture of variation* does, in part, rebut the criticism that the constitutionalist perspective ignores the contestable nature of knowledge with a consequent need for discourse (Webb, 1997a/b). Webb (op. cit.) was arguing from a critical theory/ critical hermeneutic perspective that knowledge is a political artefact. It is true that the constitutionalist perspective does not address such a view of knowledge from the perspective of such critical paradigms. However, within the idea of the *architecture of variation* is an allowance for the possibility that a phenomenon can be examined either neutrally or from a critical theory perspective or from the perspective of others. In my own field, of construction technology, the house can be considered, within Le Corbusier's (1923) modernism, as *a machine for living in* (Le Corbusier, 1923). An alternative view, from Foucault (1980), would have the house as a technology whereby society prescribes a morality for the family. The point is that both these considerations can be accommodated, and debated, within the notion of the *architecture of variation*.

An associated strand in the constitutionalist perspective is that learning is about learning to experience:

*[..] as a fruit of learning the person will be able to experience
the phenomenon in a more advanced or more complex way*

(Marton and Booth, 1997, p. 142)

The goal of learning is similar to the outcome of bracketing of the natural attitude found in Husserl's idea of the epoche - as an enriched way of experiencing the world. This presumes that there are qualitatively different ways of experiencing the world with the more impoverished ones capable of betterment. Before forming a perspective the student must, first, learn to experience in a better way and then analyse these qualitatively improved experiences, drawing from and, relating to, previous experiences which have

already been constituted into perspectives. A qualitatively improved concept is the consequence of a qualitatively improved way of experiencing a phenomenon.

Marton and Booth do not connect this notion of *enriched experiencing* with the *constitution of knowledge objects* during study. Nor is it clear whether learning to experience is a worthy goal in its own right or whether learning to experience assists the act of studying, either for exams or during normal lecture/ tutorial attendance, or whether studying is an especial way of learning to experience. What is clear is the nature of knowledge that is expected to result from studying - i.e. conceptual or abstract knowledge - sometimes as *knowledge objects*.

The view of the student, then, is one who assembles and collects perspectives and adds new perspectives to an existing repertoire. However, he/she does not need to connect one perspective/ concept to another. What is required is that the relationship between perspectives is examined. Embedded in the constitutionalist perspective is a presumption that both experiences, and the concepts that can be derived from them, can be organised into a hierarchy. That some experiences, especially those resulting from better bracketing of the natural attitude, are qualitatively superior to others. It follows that perspectival concepts derived from such high value experiences are superior to those derived from lower level experiences. The student's initial role is to seek new ways of experiencing phenomena, thereafter as analyser of qualitatively improved experiences into concepts. The main point is that perspectives/concepts are relational to, but not necessarily cohesive with, other concepts. None-the-less, the perspectival concept is sovereign and the student needs to map these conceptual relationships in awareness. Implicitly, given the emphasis on qualitatively differences in experiencing, this will be into a hierarchical structure.

Discourse is present during this process but it is an internal discourse. Returning to the alternative views of the house - the student is expected to be aware of both views but come to a conclusion as to which view he/she finds more compelling, thereafter ordering them into a hierarchical structure. Thus an interior design student may adopt a *form follows function* approach to house

design but also be aware of, but not adhere to, Foucault's argument that how families function has been socially, politically and historically influenced through house design.

The teacher's role is as change agent and as a moulder of experience who *mould[s] an object of study* (Marton and Booth, p.179), or as Entwistle (1997) puts it, to provide *a vicarious experience of relevance* (p. 20). Part of this moulding of experience requires the teacher to make sense in the hierarchical ordering of experiences. Prosser and Trigwell (1999) develop the role of the teacher in terms of approaches to teaching. They value an approach to teaching of *conceptual change/ student focus* (CCSF) over *information transmission/ teacher focus* (ITTF). By *student focus* they signify teachers who:

[..] focus on their students' world views or conceptions of the subject matter rather than their own conceptions or the texts' conceptions.
(p.147)

In other words conceptions are, again, supreme, with the teacher charged with understanding the student's existing, limited, perspective on any concept and also understanding other available perspectives relating to the concept. By adopting the student's focus the teacher is able to build a *relevance structure* for the student where the relevance of any learning experience becomes explicit to the student(s). Presumably a *relevance structure* can only be built by reference to the students' previous experiences as manifested in his/her conceptual understanding of an issue.

The idea of the *architecture of variation* has implications for the teacher. The teacher should design learning situations around the *architecture of variation* by bringing multiple perspectives to bear on a topic. This implies the teacher as custodian of multiple perspectives about a concept with an ability to move easily from one perspective to another.

However, the constitutionalist perspective recognises that all phenomena are experienced whilst embedded in situations. Marton and Booth (op. cit.) draw on the phenomenological idea, of *horizon*, internal horizons, external and open horizons, to define their understanding of situation and context.

If the *internal horizon* can be considered as the contents, or structure, of a phenomenon, the *external horizon* can be regarded as the context or *that which surrounds the phenomenon experienced* (p. 87)². In order to experience something we must be able to do two things. Firstly discern it, i.e. abstract it, in terms of its wholes and parts (internal horizon), from its context (external horizon). Secondly the *thing* is given additional meaning *through an open horizon of "possible perceptions"* (Husserl, 1970, p. 162). In other words, we abstract or de-situate knowledge with the capability of recognising other possible contexts or situations where that knowledge may be valid or applicable. We can then re-situate that knowledge into those anticipated contexts. If the knowledge does not fit, or fits badly, we create a new horizon of possibilities. This notion of an ability to resituate knowledge horizontally comes close to Eraut's views on situated learning (Ch. 3). Thus, one role for the teacher is as someone with more/ better experiencing of the world, who can explain other contexts or *open horizons* where a particular phenomenon may have relevance and into which it may be resituated.

Knowing, if Marton and Booth are to be true to Husserl's phenomenology, must be different from knowledge. Knowledge, although it can never be fully known, is ultimately objective, whilst knowing is always subjective. The unknowable but real, objective world, at any point in time, is the sum of subjective experiences as *sensible determinations of the object* (de Muralt, 1974, p.300), or, in Husserl's terms, *adumbrations*. For Marton and Booth, to know is to have perspectives on the world which are person/world relationships. To learn is to change that, perspectival, person/world relationship with learning as *a matter of reconstituting the already constituted world* (p.139). According to Marton and Booth we enter the world and make more and more of it our own. In other words to know, is to take personal possession of parts of the world. But, at the same time, we contribute to the world:

The world is an experienced world and given that our own experienced world is part of it, the world would not be the same world without any single one of us. (p. 138).

² Also touched upon in Chapter 2

Moreover we do not experience the world alone. Our experiences are mediated by others, we rarely directly confront phenomenon as such, but the phenomenon as described by others such that:

To an increasing degree we see the world in terms of patterns of a shared culture through a shared language. Our own world becomes increasingly the world of others. (p. 139).

The world, as already experienced by others, becomes a constitutive force for learning alongside the constitutive acts of the learner. Despite this Marton and Booth distance themselves from, what they term, *social constructivism* claiming that it holds *the situational outside the individual as the fabric of knowledge* (p. 139) resulting in a *denial of pedagogy* (p. 201). The presumption being that the *fabric of knowledge* must reside inside the individual.

The individual can take on board other perspectives and/or add his perspective to an existing pool of perspectives; in both cases the role of evidence is crucial. His/her perspective will be tested against evidential requirements by the *world of others* and the perspective of the *world of others*, as part of a *pattern of a shared culture* will be tested by him/her before it is accepted by him/her. In this model, two apparent contradictory things happen. The world of others is constituted after individual minds have been constituted but, for emergent awareness, the world is an already constituted world. Individual subjectivity is assumed without accounting for how shared meanings are arrived at. However this is not regarded as a major concern in the constituted perspective - it hardly warrants a page in Marton and Booth (op. cit.) - and appears to dissolve into the individual testing his subjective perspectives against those of others. How this is done is not elaborated - the presumption being that it is regarded as non-problematic.

In terms of the importance attached by Prawat to tools in post-modern theories the constitutionalist perspective regards knowledge as a tool which allows better experiencing of the world. In other words it is knowledge which is the tool to be used by the individual in the world. Likewise, the production of physical artefacts is not mentioned in the constitutionalist perspective - abstract knowledge is the privileged artefact, and tool, to better experience.

Reference has been made in this section to claims that the constitutionalist perspective ignores discourse and the power relationships in the validation of knowledge. These have mainly come from critical theorists or critical hermeneutics as in Webb (1997a/b). This is understandable given the conflicting views, within phenomenology and critical theory, on the role of prejudice and assumptions within knowledge and its construction. Phenomenology emphasises the need to bracket such assumptions in the *epoche* during experiencing, whereas in critical theory such assumptions are regarded as embedded both in the act of experiencing and in the thing being experienced. Critical theory regards phenomenological bracketing as impossible, unnecessary and counter-productive. In some critical versions it is regarded as a dehumanising act to strip away our assumptions and any other socially constructed baggage we may have appropriated.

4.2.3 The Constitutionalist Perspective as a Participation/ Post-modern Theory.

Whilst Marton and Booth (op. cit.) explicitly and vigorously reject socio-cultural theories because of their *denial of pedagogy* there are, none-the-less, points of contact between their constituted perspective and this family of theories which makes such rejection look less than absolute.

In more detail. Firstly, despite their privileging knowledge as perspectives in individual awareness, Marton and Booth accept the idea of the *collective mind* (p. 109). Without mentioning Husserl they draw on his concept of *whole and parts*, that wholes have real parts on which they depend. For Marton and Booth there is both individual (part) and collective (whole) awarenesses and it is in the latter that *variation can be spied* (p.109). Implied in their view of the collective mind is the notion of difference or a differentiated collective mind. Both consent and dissent are present in the *collective mind*. In the constitutionalist perspective, the individual mind meets with collective mind, not to be absorbed by the latter but to add a dimension of variation to it. In this analysis of *wholes and parts* the relationship is dialectic with individual mind situating, or re-situating, itself in the collective social mind. Sfard (op. cit. p.6) also touches on *wholes and parts* - but only abroad within a participation

metaphor. Without making it clear if she is using the idea in a Husserlian way she posits that it is the *wholes and parts* dimension which *makes salient the dialectic nature of the learning interaction* (p.6). In this sense, there is an opportunity for the contested view of knowledge, valued by Webb (op. cit.) and critical theorists, to be developed within the constitutionalist perspective.

Secondly Marton and Booth emphasise the perceived and experienced world is a world that is shared, indeed already constituted, by others. Such perceptions of the world as formed *in terms of patterns of a shared culture through a shared language*. (p.139) is a notion which resonates with much socio-cultural thinking.

Thirdly, their connection of *relevance structure* with authentic practice connects with some, classroom focused, socio-cultural theories:

Most of our examples of building a relevance structure of situations conducive to learning come very close to trying to constitute an authentic practice (in a wide sense of the word).

(p. 204)

Accounts of the examples given in Marton and Booth do not allow judgement about this claim. An example to explain the notion of *moment of inertia* only drew from earlier classroom concepts in mechanics. In other words, *relevance structure* could mean classroom concepts building upon classroom concepts. Moreover, none of the examples given to support the notion of *relevance structure* emphasise the messy, ill-defined and ill-structured nature of problems found in practice (Roth, 1999). If relevance structure was to have any classroom authenticity, problems would have to be less tidy and less solvable through one correct answer or through recourse to one domain of knowledge.

Entwistle's emphasis on the vicarious implies a role for the teacher as a bridge between the world of practice and the classroom in much the same way as described in symbolic interactionism (Ernest, 1995; Cobb, 1999). Such accounts given by Marton and Booth imply that students are denied access to "real" experiences found in the world of practice and have to accept vicarious experiencing where the world is mediated by teachers. A vicarious world is accepted over a real world making *constitut[ing] an authentic practice*

problematic- improved degrees of authenticity are implied as the best that can be hoped for in the classroom.

Fourthly, the emphasis on *difference* in the *architecture of variation* connects the constitutionalist perspective with arguments that the constitution of the subject within socio-cultural practices requires *divergent perspectives, opposition of ideas, [...] and other disharmonious instances* (Smolka et. al. (1995, p. 167). The argument proceeds that the sources for such *disharmonious instances* are embedded in the participation metaphor because of the polysemic nature of the sign - particularly in language. Language is central within the socio-cultural theories and if the *sign is polysemic the nature of the constitution process must imply what is different, not just identical* (p.183). What Smolka et al. are doing is using the language of phenomenology when they talk about the constitution of the subject and relating how such differentiated constitution might be accomplished within the participation metaphor because of a “defect” within one of its most powerful tools i.e. language. Thus Smolka et al’s (op. cit.) notion of difference, perceived as inevitable in their account of any theory reliant on language, connects with the more explicit idea of the architecture of variation in Marton and Booth.

This notion of “difference” can also be detected in Roth’s support for multiple solutions being generated from messy problems. However, this is a more expansive notion of difference than that detected in the architecture of variation of Marton and Booth. Within Marton and Booth’s account, harnessing the notion of the *architecture of variation* is the responsibility of the teacher to indicate to a student that a problem might be multi-faceted or that a reality might have many perspectives. However any problem still remains a single, identifiable problem with a one best solution. It is not a problem capable of multiple solutions. What the *architecture of variation* aspires to do is to make the problem more explicit by adding new perspectives, or to make more tidy what is already a tidy problem.

The closest Marton and Booth come to assenting to socio-cultural theory is to be found in a discussion which starts by arguing that important learning about

the layered structure of society is effected through the hidden curriculum. Referring to a study by Dahlgren (1989) Marton and Booth note that:

[.] an important effect of studies in business administration is that the students become socialized in their field by adopting general patterns of thinking that are common in the culture they are entering. (p.140)

They argue that students do this through a hidden, or tacit, curriculum at the expense of making use of conceptual and theoretical tools (p.141). Yet they acknowledge that this is *the most important learning* (p.140). In effect, any context identified in a vocational course is dismissed as some sort of hidden curriculum. Yet this is where Marton and Booth admit that the most important learning takes place. They note that it becomes difficult to demonstrate that students learning of *potentially powerful and efficient* [economic] *conceptual tools* (p. 141) use these tools in business practice, or, that such tools allow them to see the world as an economist or as business-people. Marton and Booth appear to be arguing that it is a hidden, or, to use Eraut's (op. cit.) term, tacit, curriculum in vocational degrees that allows students to think as business-people, something a grasp of *powerful [.] conceptual tools* within the explicit curriculum fails to do. Still, it is a conceptual understanding of these *conceptual tools* which is at the forefront of the constitutionalist perspective, and deep approaches to learning. This, according to Marton and Booth, is best accomplished within an explicit curriculum structure.

Marton and Booth also cite a study which extended Perry's (1970) trajectory of students in universities changing their views of knowledge from absolutist to relativist to a stage of commitment and finally to one of contextual commitment in which *certain aspects of knowledge are seen to be relevant in one situation, whereas there might be other aspects justified by another context* (p. 141). In other words, knowledge is situationally and contextually defined. The emphasis, in phenomenology, on the horizontal nature of learning would point them in this direction. In both instances they agree that the learning that takes place may not be that which is intended within the instructional setting - none-the-less learning is admitted as taking place. This presents a problem for

Marton and Booth confronting them with a question their perspective cannot respond to: how can such learning be said to be deep or capable of achievement via a deep approach if it does not coincide with the explicit learning intention?

Although they appear to accept the situational nature of knowledge they reject aspects of the nature of knowledge embedded in the notion of communities of practice. For Marton and Booth (op. cit.) the natural attitude has a tacit quality to it (p.148). Learning, in a phenomenological sense, involves bracketing this natural attitude and the tacit understandings which potentially saturate it. These tacit understandings, at the individual level, represent possible misconceptions about an area of study and they have to be set aside before *thematiz[ing] the aspect in question* (p.148). The area of study is to become an object of reflection because it may not be as it first appears to the mind within the natural attitude. Tacit understandings and tacit knowledge, valued by Von Krogh et al. (op. cit.) and Wenger (1998) are suspect within Marton and Booth's formulation because of their association with the natural attitude.

Despite these connections, explicit and potential, to socio-cultural theory, the constitutionalist perspective can be regarded as being predominantly embedded in Sfard's acquisition metaphor and Prawat's modern theory. This is, simply, because Marton and Booth say so. This is also consistent with their theory's origin in phenomenology which is generally regarded as a modern, as distinct from a post-modern, philosophy (Cahoon, 1996; Bauman, 1993, West, 1996 etc.). However these bridges into Sfard's participation metaphor do increase the perspective's potential to be dialogically related to theories more readily identified within this metaphor.

4.3 Alternatives or Open Horizons

4.3.1 Alternative Learning Theories to the Constitutionalist Perspective.

The domination, in the Higher Education literature, of approaches to studying (Entwistle, 1997 a ; Webb, 1997a and b) has, possibly, excluded consideration of alternative learning theories. Of particular interest to vocationally oriented courses these would include socio-cultural theories. Such socio-cultural theories can be sub-divided into those with a practice focus e.g. Lave and

Wenger (1991) and Rogoff (1999) and those with a more classroom focus e.g. Cobb (1999) and Rogoff et. al. (1996).

4.3.1.1 Alternative – socio-cultural learning theories with a practice focus.

This section will examine the links between practice in the workplace and socio-cultural theories of learning identified by Sfard's as a participation metaphor. These socio-cultural theories of learning emphasise that learning takes place within *communities of practice* (Lave and Wenger, 1991), as the learner moves along a novice to expert shift or from legitimate peripheral participation to full participant whilst engaged in *valued enterprises* (Wenger, 1998). As in the workplace, where learning is not the central activity, in socio-cultural theories learning is not *in focus* (Wenger, 1998) because:

Communities of practice are an integral part of our daily lives. They are so informal and so pervasive that they rarely come into explicit focus. [...] (p.7)

But

*situations that bring learning into focus are not necessarily those in which we learn the most, or most **deeply**.*

(p.8, my emphasis)

In the socio-cultural theories or situated model, learning is a process of being encultured through practice contingent on the social situations in which practice occurs (Lave and Wenger, 1991). As such these theories are less interested in developing a classroom based pedagogical strategy and more concerned with the development of *an analytical viewpoint on learning* (Lave and Wenger, p. 40). It is because of this lack of classroom focus that provokes Marton and Booth (op. cit.) to claim to detect a *denial of pedagogy* (pp.201 et seq.). Situated learning does take a different view of pedagogy from mind centred theories by refusing to either privilege the *structure of pedagogy as the source of learning* (Lave and Wenger, p. 113) or hold that learning can only takes place when learning is at the centre of things i.e. in focus. For Wenger (op. cit.) *learning is something we can assume* (p.8). Indeed, reminiscent of phenomenology's notion that learning is inevitable, Wenger argues that that there can never be a failure to learn only a failure to learn what is expected to be

learnt in a given situation. *This involves learning something else instead* (p.8) perhaps from the same hidden curriculum referred to, earlier, by Marton and Booth.

Never-the-less, Wenger (op. cit.) does allow for situations where *the issue of learning becomes problematic and requires our focus: we attend classes, memorize [...] (p.8)*. In other words a return to a pedagogy recognisable within an acquisition metaphor - and, probably, to Marton and Booth.

Wenger's account is a *both/and* account where learning can be *both* focal *and* non-focal because practice includes *both* the explicit *and* the tacit (p. 47). Indeed, in terms of knowledge, he argues that it is difficult to disentangle the explicit from the tacit. Skills, are not entirely tacit - because *people are not entirely speechless about the process* (p. 69). There are some things which can be stated. For example, when playing a snooker shot, the need to grasp the cue firmly and keep your body steady. These may be necessary but, of themselves, they do not give a full explanation of how to execute a difficult shot - other aspects of snooker remain tacit. Moreover it is these tacit dimensions which give the expert player a competitive advantage (a theme returned to later) over other players. What is indicated is that explicit knowledge cannot deliver a full account of expert performance nor guarantee performance - both require a degree of tacit knowledge. Explicit accounts of practices are more likely to be restricted to a superficial or *surface* account. Learning, focused on such a *surface* account, is, in turn, likely to be *surface* inviting a *surface* approach. Deeper accounts of practice require access to the tacit nature of practice and such access is more likely when considered from a socio-cultural or situated explanation.

This is important because in situated theories the emphasis is on acquiring skills to perform increasingly complex tasks by engaging in processes under the attenuated conditions of *legitimate peripheral participation* (Lave and Wenger, 1991). Learning occurs as the learner engages, through participation with more expert others, in the increasingly demanding or sophisticated tasks of the community of practice. Such increased involvement in complex tasks can be regarded as a *deepening* of the learner's knowledge of such practices with

increased facility in complex tasks regarded as a deepening of learning requiring a *deep* approach to learning. During this process he/she gains facility in these tasks and becomes an expert practitioner. As he/she progresses the importance of deeper tacit knowledge may increase whilst that of surface explicit knowledge may diminish.

Within this formulation:

Tacit knowledge =	deep knowledge requiring deep learning, through participation with an associated deep but perhaps non-focal, approach to learning.
Whilst	
Formal knowledge =	surface knowledge requiring only surface learning and a surface approach to learning whilst the learning and knowledge are both in focus.

Although, so far, tasks and actions have been emphasised, the notion of *legitimate peripheral participation* extends beyond task competence or *doing*. Other dimensions of learning are added or made candid within the situated model (Table 4.3). As learning takes place the social relationship between the student/peripheral participant and the community of practitioners alters (Lave and Wenger, op. cit. p.94). With this changing level of participation comes identity transformation, social belonging and meaning making.

Table 4.3

Dimensions of learning within Legitimate Peripheral Participation (Wenger, 1998)	
Learning as doing	Practice
Learning as belonging	Community
Learning as experience	Meaning
Learning as becoming	Identity

As in phenomenology the making of meaning is central to the situated model. Participation becomes a series of sequences of making meaning through a process of appropriation within socially valued activities where discourse and

language are imperatives. Because practice is rarely silent the discourses which surround it allow *legitimate peripheral participants* to talk about their changing abilities, both individually and collectively. Through these dialogues, experienced life and the world become meaningful. Legitimate peripheral participation allows better access to the tacit repertoires of skills and knowledge within the community of practice. In turn the community can, at least, be regarded as a repository of such tacit repertoires of existing skills and knowledges.

This process of explicating or appropriating the tacit whilst learning to participate in a community, involves learning to use language as the community does (Lave and Wenger, op. cit. p.105). Language becomes the tool of tools within practice, which simultaneously allows the appropriation of tacit skills and knowledges, and both enables and lubricates practice. This is in contrast to a view of language as a device to represent practice found in the constitutionalist perspective.

This is recognised by Lave (1997) when she claims that the classroom is where, all too often, representations of practice take place such that students end up focusing on a surface, generalised representation of practice and not the deeper aspects of practice itself. In such an account learning which is focused may not represent genuine learning. Indeed such learning may be deeply focused, resulting in a deep approach to learning but may also be inappropriate learning or result in surface learning. Appropriated knowledge is the result of appropriate learning because, if learning is to be about increased access to performance, then the way to maximise learning is through performance, using language as a tool of practice as opposed to considering language as abstract, symbolic structures used to represent practice. Because the learning is appropriate to practice it is, more likely, despite its being non-focal and therefore not the subject of study (deep or otherwise), to be deep learning.

Important, within the notion of legitimate peripheral participation, is the concept that it is not just the student who changes but so also does the community of practice and any overarching organisational structure. In that

sense Von Krogh et al's perceived need to replace the concept of *community of practices* with their *enabling contexts* is not needed.

Of the writers on socio-cultural theories of learning Wenger (1998) is, perhaps the most specific in connecting it to organisational aspirations. Wenger, reminiscent of the Scottish Executive's aspirations, posits a win-win-win scenario with learning occurring at three levels.

- At the individual level learning is *an issue of engaging in or contributing to the practices of their communities.*
- At the community level learning is an issue of developing and *refining practice or of adapting practice when challenged by new participants and of ensuring new generations of members.*
- At the organisational level it is an issue of *sustaining the interconnected communities of practice through which an organisation knows what it knows and thus becomes effective and valuable as an organisation* (Wenger, 1998, pp. 7/8)

A fourth, national, level could be added, to what is a bottom-up approach, in terms of arriving at meeting Scottish Executive policy agenda of national competitiveness. Chapter 2 (Context) could be regarded as mapping out another win - win - win, top down, mirror image, approach based on human capital theory. What Wenger, Von Krogh et. al. and perhaps even Lave and Wenger could be arguing for is a social capital approach. An important addition from Wenger is his emphasis on contribution. The participant is not just a "taker" he/she makes a contribution to the success of the community. This contribution may take the form of challenges to the community resulting in the creation of new knowledge as the community responds to these challenges.

4.3.1.2 Alternative: socio-cultural learning theories with a classroom focus.

Not all socio-cultural learning theories exclusively privilege the world of practice. Some, similar to the constitutionalist perspective, take account of the classroom as a learning venue. Classroom focused socio-cultural learning theories have been developed by Cobb (1999) with his notion of teachers and students negotiating their way to an understanding of meaning, by Rogoff et al. (1996) with their notion of the classroom as a community of learners and with

Roth (1999) emphasising the need for authentic practices within the classroom. The common theme is that by minimising the classroom/ world split the mind/world split will resolve itself. Each of these commentators assign a role to the teacher, making these theories less vulnerable to Marton and Booth's blanket charge of *denial of pedagogy* levelled against all socio-cultural theories. The Symbolic Interactionism of Cobb (1999) and Cobb et al. (1997) is such a learning theory with a classroom focus. As such, of Prawat's post-modern theories, it is the one most likely to present itself as a viable alternative to the Constitutionalist Perspective.

In terms of pedagogy the "good teacher" within the constitutionalist perspective is one who constantly, views issues from the perspective of the student as opposed to the perspective of the topic. This is also a characteristic requirement, within symbolic interactionism, of the tutor (and student) with its emphasis on mutual perspective taking. Discourse, as in Prosser and Trigwell's ATI, is important in symbolic interactionism but has a more generous purpose. Discussion leads to shared meaning such that meaning, as a negotiated meaning, may be regarded as a strategic dimension of this teaching approach. Discourse is more than the teacher aspiring to achieve a student focus, and is a process of arrival at shared meanings concerning phenomena.

A second link emerges within symbolic interactionism, again with reference to the role for the teacher. This link is to the world beyond the classroom or, in vocational education terms, the workplace. Because the symbolic interactionism of Cobb (1999) is more concerned with the *classroom microculture* (p. 139) rather than how knowledge is constituted as practice in the *wider society* (p. 139), it concentrates on the classroom as a specific form of learning context in terms of actions by the teacher and the other students. However, much more than the constitutionalist perspective, the classroom is conscious of practices in the outside world. It becomes the role of the teacher to mediate between culturally established meanings of surveying or design held, beyond the campus, in the wider, construction and design, communities. He/she then makes these meanings present in the classroom. To do this the teacher has to, firstly, understand the conceptions of surveying or design held by

the students and, secondly, negotiate the class to these culturally established meanings defined by the wider community of surveyors or designers. In this way the classroom meaning is constrained by the wider meaning developed at the community level. The first condition is similar to Prosser and Trigwell's (1999) requirement of a student focus and the second condition is similar to Marton and Booth's (1997) requirement for the teacher as mediator between the limited perspectives of the learner and richer perspectives of which the student remains unaware. What symbolic interactionism does is specify, more clearly than the constitutionalist perspective, that knowledge is located, beyond the classroom within communities of practice and not just in textbooks. The role of the teacher is one of bringing this community or practice based knowledge, in a mediated form, to the classroom. This is not unlike Entwistle's idea of the teacher as a provider of *vicarious experience[s] of relevance* [op. cit.]. In such a case the lecturer seeks examples of relevance from the world of vocational, professional practice rather than, in the examples given by Marton and Booth, from previous classroom experiences. Teachers require a foot in both camps and it may be that part-time lecturers, of which there are six within the department, are better placed in this respect. This may be to such an extent that it is recognisable by students.

In his account, Prawat emphasises symbolic interactionism's ability to chronicle *how a group of individuals interactively constitutes and stabilises meaning at the classroom level* (p. 220) while allowing for individuals to have their own unique interpretation. This is similar to the *differentiation v integration* debate within the phenomenology used by Marton and Booth (op. cit.). The issues of differentiation and integration are important in symbolic interactionism. Cobb, according to Prawat (1996), emphasises the classroom as a *consensual domain* but one where the individual has a role. Knowledge is taken as shared knowledge - socially constructed and socially agreed. Within the classroom community there develops a shared understanding or a shared practice but, importantly, there is also significant differences in how this common practice or understanding is construed. Individual meanings arise

which are compatible with, but not necessarily fully consistent with the *common classroom knowledge*.

As part of this process the teacher initiates the students into an interpretative stance. Ernest (1995, p.479) has extended the role of the teacher in symbolic interactionism as:

- *facilitator*
- creator of conditions for conflict resolution, meaning negotiation and mutual perspective taking
- asker of questions that prompt students to move towards socially accepted meanings

Within this model is an assumption that the student's existing knowledge and experiences are socially situated. Prawat argues that, within the *consensual domain*, a necessary fiction is maintained that people are dealing with a stable reality of objects when, in fact, each participant makes his or her own interpretation. The integration/differentiation dyad is resolved through this *necessary fiction*. Part of this fiction is a set of rules about how objects and tools, including language, are used and as long as individuals act acceptably with the objects and tools the "sameness" fiction is maintained. In other words, *the necessary fiction*, that is a part of the *consensual domain*, is constrained, by external practice as brought to the classroom by each participant but particularly by the teacher. Thus a constrained fiction results, otherwise there would be the risk of the necessary fiction collapsing into fantasy. Individual interpretations are only constrained within, they are not excluded from, the *consensual domain*. *Intellectual autonomy* (p.157) is fostered by the teacher, but, contextually related to the social norms or *consensual domain* of the classroom.

The ideas of *consensual domain* in symbolic interactionism and *architecture of variation* within the constituted perspective appear to be flip sides of the same coin. Consensual domain emphasises consent but admits dissent whilst the architecture of variation allows a higher priority for dissent but permits consent. Accepted within symbolic interactionism is the premise that students learn from their own conceptual operations and actions together with their interpretations of the activities of others and social interactions. However this

goes beyond resolving cognitive conflicts to also achieving consensus by developing taken-as-shared meanings, as well as autonomy (Ernest, op. cit. p.479). Symbolic interactionalism is more explicit about a role for negotiated, shared meanings and allows for this happening to a much greater extent than Marton and Booth's constitutionalist perspective.

The knowledge as object view of knowledge and internalisation/interiorization view of learning through reflective abstraction (Prawat op. cit. p.220) is more acceptable within symbolic interactionalism (Cobb et. al. 1997) than it is in the situated theory of Lave and Wenger (1991). Cobb et al. emphasise the need for abstraction when, using a semiotic approach, they argue that the processes of signification is both central to (mathematical) practice and reflective abstraction. Learning becomes the constitution of a chain of signification which requires abstraction. Signification, for Cobb et. al., requires reflective abstraction on the part of individual mind. However Cobb et. al., in terms reminiscent of Sfard (op. cit.), argue that psychological and socio-linguistic accounts need not compete and that *analyses that explicitly co-ordinate these two theoretical perspectives* (p.220) may clarify the relationship between mind as a semiotic reflective conceptual reorganiser and situated perspectives of understanding in practice. In short, Cobb appears to argue that language has both a signifier, if not representational, and an actional component. His version of symbolic interactionalism appears to have a more ecumenical approach to the concept/participation debate. In that sense it is a *both/and* theory perhaps more capable of endorsement than Sfard allows.

Socio-cultural theories of learning within the classroom have also been investigated by Rogoff et al (1996) who identify three classroom models: adult run, child run, and community of learners model. They advocate the community of learners model *where members [...] learn to take responsibility for their contribution to their own learning and to the group's functioning* (p. 397). As in Wenger (1998) there is an emphasis on contribution to overall group *functioning* or objectives.

Dependent on the circumstances, it will be proper for the teacher to lead the community and in other circumstances for the student to have primary

responsibilities. Asymmetry is at the heart of learning. This asymmetry is expressed in terms of knowledge and expertise within the classroom community. This, in turn, feeds through to roles played by the various actors within the community of learners. What is emphasised is a shared, collaborative learning endeavour where roles, expertise etc. are both asymmetric and fluid. In the community of learners model the variety of practices which are consequent on the asymmetrical roles of the actors within the community are regarded as a resource rather than a problem.

This model resonates with Lave and Wenger and attempts to capture the community of practice and transform it into classroom communities of learners. The adults, in Rogoff et al.'s, classroom still have a significant role not unlike the expert practitioners in situated theories found in practice. This role is made explicit in Rogoff's notion of *guided participation* which again stresses the need for asymmetry. Guided participation involves acts of communication and co-ordination *as people attempt to accomplish something* (p. 148). Although it is purposeful there are elements which are tacit or require tacit understanding - as well as explicit or requiring understandings to be made explicit. Although goals are involved these goals may not be articulated or, even, focal. As Rogoff stresses:

The perspective of guided participation [...] emphasizes routine, tacit communications and arrangements (p. 148)

In this sense Rogoff's classroom communities of learners are intended to replicate communities of practice found beyond the classroom.

Authenticity becomes central within classroom focused socio-cultural learning however, the obvious location for authentic practice is within practice itself. This is recognised by Lave and Wenger (1991) leading them to the conclusion that their views are not immediately fitted to the classroom situation. Authentic practice in the classroom is a concern of Roth (1999) who argues for *classrooms [to be] designed to operate as communities* (p.16) where learning becomes a process of *social co-participation* (p.16). This idea of *social co-participation* can also be found in Cobb's symbolic interactionism as a mechanism to ensure the teacher's role as a mediator who negotiates between

the world of practice and emerging understandings of practice within the classroom.

4.3.2 Alternative Locations for Learning.

As mentioned, the constitutionalist perspective and the *approaches* literature is campus focused with an, essentially, acquisition of knowledge emphasis. Socio-cultural theories, on the other hand, have a practice focus. The various courses within the department have different degrees of workplace based learning through supervised work experience and part-time modes. Yet the constitutionalist perspective appears to be silent on the merits of this location for learning. None-the-less this, and the succeeding sections, will examine workplace based learning and its connection, initially, to an acquisition metaphor (Sfard op. cit.). However some management theorists (Baumard 1999; Von Krogh, 2000; Senker, 2000) have more readily connected workplace based learning, with its emphasis on the importance of tacit knowledge, to socio-cultural learning theories. Indeed they have done this with more enthusiasm than is sometimes admitted in educationalist accounts. Thus, as with the notion of professional knowledge, in the previous chapter, two accounts of learning are available an educationalist account and a managerialist account. As in the previous chapter, this latter account is considered appropriate given the economic, competitive agenda set by the Scottish Executive (Chapter 2).

4.3.3 Alternative perspectives on workplace based learning.

As mentioned in Chapter 1 (Fig. 1.1), and suggested by Chapter 3, two perspectives on workplace based learning can be identified. An educationalist account within which learning is held to be in focus and another account where profit and/or better service delivery, not learning, is in focus. This latter perspective or account is referred to as the managerialist account.

4.3.3.1 Alternative perspective on workplace based learning - the educationalist account.

The issue of types of knowledge within this account have been discussed in the previous chapter. Generally these accounts of learning are premised on a

personal acquisition view of knowledge (Eraut op. cit.; Taylor op. cit.; And Schon op. cit.).

Different forms of learning, formal and non-formal, have been identified by Eraut (2000). Formal learning is characterised by:

- A prescribed learning framework
- An organised learning event or package
- The presence of a designated teacher or trainer
- The award of a qualification or credit
- The external specification of outcomes

(Eraut, 2000, p.114)

In other words the type of learning found in most university curricula and recognisable within the constitutionalist perspective.

Non-formal learning is learning which fails to meet these criteria and can be either deliberative, reactive or implicit. The distinguishing feature is the level of intention to learn. Deliberative learning is closest to formal learning with a high level of intentionality and with time specifically set aside for that purpose. Reactive learning is made explicit through *setting aside time for more reflection and thus becoming deliberative* (Eraut, 2000, p.115). Thus an experience triggers a reactive learning event which is deepened through processes of reflection. Despite its spontaneous and unplanned nature, the learner will be aware of the occurrence of reactive learning. In this model, reflection connects with a deep approach to learning – the deeper the level of reflection the deeper the approach to learning and, presumably, the deeper the learning. Moreover these processes of reaction followed by deliberative reflection leads to an acquisition (Sfard op. cit.) of knowledge. In both these accounts learning can be considered as being in focus to some degree or another.

Implicit learning is defined by Eraut as *the **acquisition** of knowledge independently of conscious attempts to learn and in the absence of explicit knowledge about what was learned* (p.115, my emphasis). There is no intention to learn, at least on the part of the learner, and the learner is unaware that learning has taken place. In that sense learning is not in focus with the learner, initially, unable to articulate what learning has occurred. Implicit learning leads

to tacit knowledge which is conceptualised as generalised acquired knowledge. This is explicitly an acquisition metaphor. Indeed Eraut does make reference *situated learning* (p.130) and does posit instances where knowledge can be regarded as social rather than personal such as team endeavours where performance requires more than the knowledge an individual can deploy.

Eraut posits a model as indicated in Table 4.4. Explicit learning, in formalised settings where learning is in focus, concentrates on the conscious acquisition of explicit knowledge in individual mind and, at the wider community level, on additions to formal, objective, codified knowledge. However explicit learning rarely takes place in isolation; implicit learning, of, for example, a hidden curriculum, attends it in even the most structured situations. As such some form of implicit learning is inevitable in any learning encounter. This is the same learning which, as mentioned earlier, Marton and Booth regarded as *most important*.

Table 4.4 Individual and Social Modes of Cognition
(from Eraut, 2000, p. 131).

	<i>Individual</i>	<i>Social</i>
Explicit	Conscious	Objectified Scientific
Implicit	Automatic Intuitive	Collective Cultural

When implicit learning is analysed at the social level it is conceptualised as a collective, cultural phenomenon. Eraut accepts this view and does not deny that learning is socially situated. However he specifically rejects the socio-cultural views of learning, arguing that simplistic accounts based on learning in traditional, stable, societies which offer limited pathways through a limited number of social settings with limited knowledge bases, have to be treated with caution in modern, complex, post-industrial societies. In these latter, more fluid and less structured societies, individuals follow differentiated trajectories through a variety of, sometimes, ephemeral social settings. Because of these highly differentiated settings learning, itself, becomes highly differentiated and hence qualitatively different at the individual level. In addition learners come to a situated learning experience with different prior knowledge. Different learning histories, together with different trajectories through different situated

learning events, result in qualitatively different learning outcomes which are then re-introduced into new situations. What happens, in this account, is that learners resituate their existing knowledge into new settings. Their prior learning is then integrated with new learning occasioned by participation in the new social setting. None-the-less, because learning is so differentiated at the individual level, learning has to be considered as an enterprise of individual mind rather than communal mind. Consequently learning is perceived, primarily, as an acquisition of something by the individual – either concepts in explicit learning or as tacit knowledge in implicit learning. Utilising these arguments Eraut rejects the notion of appropriation in socio-cultural views of learning. What Eraut does appear to offer, like Marton and Booth in the “campus” setting, is an explanation of qualitative differences in learning in social situations. Moreover he does so in a manner not far removed from mainstream, Husserlian phenomenological thinking.

4.3.3.2 Alternative perspective on workplace based learning - the managerialist account.

The creation of a *knowledge economy* identified as a national economic/ political aspiration has been outlined in Chapter 2. As part of this agenda the higher education system is seen as having a significant role (Crawford/ BBC Radio 4, op. cit.). At the same time learning or the development of expertise is not to be limited to the province of the university; the workplace is considered as a legitimate and potentially robust alternative location. If lifelong learning is regarded as a strategy for national competitiveness then workplace based learning can be considered as an instrument of organisational effectiveness. As such learning, for organisational competitiveness, in the workplace becomes a legitimate concern of management. In addition it has implications for concepts such as “knowledge management” within organisations (Von Krogh et al. 2000). In this account the workplace is perceived as having a *primary purpose [...] involving the creation of profit in the private sector or deliver within budget in the case of the public sector* (Rainbird, 2000, p.1) In other word the primary concern of the workplace is not education. Learning is perceived in terms of the creation of human capital with a win-win-win,

assumption, sometimes contested (Livingstone, 2000), that workplace learning is consonant with the well-being of the organisation, the learner and, ultimately, the national economy.

Within this managerialist account three possible conceptions of the workplace/ learning relationship have been advanced by Stern and Sommerlad (1999).

These are:

- the workplace as a site for learning
- the workplace as a learning environment
- learning and working as inextricably linked

the workplace as a site for learning - with a separation between work and learning requiring some form of structured learning generally off or near the job. This model is characterised by dedicated trainers or staff developers and presumes a separation between learning job-related knowledge from the rest of the worker's life. *Abstraction of theoretical knowledge from practice* is required and, consequently, runs into difficulty with the admittance of the notion of tacit knowledge as a constituent within professional knowledge. This model is limited in the sense that it simply moves the classroom closer to the workplace and presumes that practices in both locations will remain, largely, unaffected. The classroom will remain a classroom and the workplace will remain a workplace. Geographic proximity belies any epistemic proximity.

the workplace as a learning environment - with a diverse array of on-the-job learning activities, some highly structured and some with minimal pedagogic intervention. A greater importance is credited to the contexts, including the social contexts, in which job skills are embedded. Reflection on the part of the individual is an important component raising questions about the individual's perception of him/herself in relation to the job and organisation. As such a mind/ world(as job) split remains embedded within this model. The model also requires dedicated staff developers with support mechanisms such as learning plans and professional development plans. Techniques such as *Leittext* have been introduced to support the reflective process and provide a stronger basis for the transfer of learning to different settings

(p.2). The transfer of reflectively obtained conceptual knowledge to other settings or open horizons is regarded as unproblematic.

This model is perhaps the most pervasive and has generated a substantial body of literature e.g. Schon (1991) and also resonates with Eraut's (2000) notion of an explicit mode of cognition shown in table 4.4. Structure is important with various structures identified (Stewart, 1999). Some form of guided learning (Stewart op. cit.) is normally preferred within this model with various forms of guided learning identified ranging from directive control to non-directive. All of these forms, within this model, require some measure of abstraction from practice through reflective processes by the student. The difference from *the workplace as a site for learning* model is one of immediacy - i.e. the learner reflects upon completion of task. Task and reflection are coupled directly.

In terms of the Supervised Work Experience modules with the Department's programmes their assessment are largely premised on this model. Students, both part-time and full time on SWE, are required to produce a series of reports which connect theoretical issues dealt with in the classroom and relate them to issues confronted in the workplace. Reflection is at the core of SWE. Indeed the documentation issued to students explaining SWE assessment criteria includes Chapter 1 of Schon's (1991) *The Reflective Practitioner* entitled *The Crisis of Confidence in Professional Knowledge* which deals with the mismatch between the *lagging understandings* of professional knowledge and the demands of practice. Students are expected to attend to this gap by adopting the reflective stance advocated by Schon throughout his book.

- learning and the workplace as inextricably linked –

A substantial amount of professional development is undertaken naturally whilst stretching the boundaries within daily work [..].

(Gale D.A. Construction Manager,³ Nov/ Dec 1999)

³ The house journal of the Chartered Institute of Building (CIOB).

In the case of the construction management programme, the SWE requirement is designed to reflect the Continuing Professional Development requirements of the Chartered Institute of Building (CIOB). The above quote is taken from an article which, again, like Schon (1991), is included in the SWE handbook issued to students. Learning takes place as problems at *the boundaries* are encountered and confronted. The premise is that construction professionals often operate in boundary situations.

Work is regarded as a knowledge based activity where high performance and high skills construct each other. There is a qualitative element here - that the higher the level of performance and/or the closer it is to the boundary the higher the level of skills constructed. Learning is stimulated by the problems, challenges and changes that make up the workplace and out of the social interactions found in the workplace.

When the individual is the focus the thrust is towards action learning programmes (Stewart, 1999). However, within this model learning is often perceived, more, as a collective, social activity with communities of practice or social units such as teams or, even, whole organisations. Such social units can be fluid and extend beyond the boundaries of the organisational setting to include customers, clients, sub-contractors with whom the social units within the organisation interact. As Stern and Sommerlad (op. cit.) put it:

Acquiring competencies and skills is almost secondary with respect to those processes of constructing new social identities and ways of thinking. The emphasis given to sense making, system thinking, social and communication skills and team-based problem solving underline the social nature of learning. Moreover, there is recognition that people can acquire knowledge and skills informally, quite independently of conscious attempts to learn. There is renewed interest here in learning theories in which the human person is depicted as a truly social being and learning is viewed as a social activity. (p. 4)

Learning takes place as communities of learner/practitioners identify, address and solve problems as they emerge in practice. Although this is implied as happening at the individual level the use of the plural in the first sentence of the above quote indicates that it is happening throughout the social unit and not just to one particular individual at one particular level. Indeed Senker (2000), discussing engineers, refers to their lives as being one of *continual apprenticeship* (p.240).

Each of the three posited relationships between the workplace and learning generate different views of the learner and the teacher/ mentor (see Table 4.5). In the *workplace as a site for learning* model the learner is conceptualised as being close to but detached from practice with practice still intellectualised into theory. Learning is perceived as an intellectualisation of practice. The teacher is conceptualised as a bridge between practice and the theoretical world of the classroom similar to that assigned by Cobb (1999) in symbolic interactionism. The workplace as a learning environment venerates reflection within learning. The learner is regarded as a putative reflective practitioner with the teacher as a facilitator in this process. Essentially, it regards learning as a mind centred intellectualisation of practice, by, reflectively, abstracting knowledge from practice.

Table 4.5 Views on the Workplace as a Location for Learning and Consequent Views of the Learner and Teacher.

Relationship/ Model	Learner	Teacher/ Mentor
The workplace as a site for learning.	As student acquiring knowledge, located close to, but partly detached from the workplace.	Essentially as expert teacher. Practitioner skills also needed. Acts as bridge between classroom and practice.
The workplace as a learning environment.	As aspiring reflective practitioner - Acquiring knowledge (Schon, 1991).	As expert mentor/ practitioner acting as facilitator in the reflective process.
Learning and working as inextricably linked	As learner/teacher in a community of practitioner teacher/ learners within a social/participation model of learning.	

The third model views learning as a social process with the learner moving from peripheral participation to full participation within a community of participant/ learners. The teacher is regarded as an expert practitioner. Indeed in the Stern and Sommerlad account the distinction between learner (student) and expert (teacher) is blurred. The learner learns as he/she engages with these experts in their expert practice. The expert learns as new problems, in the less than routine world of the professional, are identified and solved. Through such practice knowledge is appropriated at several levels within the community of practitioners. Moreover, new knowledge is created the closer the social/ team units confront problems at boundary situations.

This notion of the workplace and learning being inextricably linked connects this managerialist account with participation or socio-cultural views of learning. Von Krogh et al (2000) accept the work of Lave and Wenger (1991) but felt the need to go beyond the notion of *communities of practice* because their, perceived, staticity precludes creation of new knowledge. They replace the notion of *communities of practice* with the ideas of *microcommunities of knowledge* (p. 83) and *enabling contexts* (p. 179).

Socialisation is essential within both ideas. In their microcommunities of knowledge:

[..] members of the community not only come to understand each other's definition of shared situations but also agree on a common definition and justified true belief about how to act in that situation. Such situations might involve the performance of a complex engineering task [..]

(Von Krogh et al. p. 83)

Members of these microcommunities identify with each other and are motivated to extend their community membership into the future. Moreover these microcommunities are rich in tacit knowledge. Von Krogh et al. acknowledge the difficulties of transmitting such tacit knowledge – *it cannot be easily passed onto others* (p.83). They talk about it being *shared* through processes of:

- Direct observation as in a master/apprentice relationship where observers come to share beliefs about which actions work and

which do not. Thereby increasing their potential to act appropriately in similar situations.

- Direct observation and narration where in addition to the above the learner gets additional explanation about the process of solving the task – sometimes as metaphor.
- Imitation where the learner attempts to imitate the actions of a more expert other.
- Experimentation and comparison where the learner attempts a solution and compares it with that of an expert.
- Joint execution where micro-community members jointly try to solve a task with the more experienced offering small hints and ideas about how to improve the performance to the less experienced.

The above focuses on how less experienced members of a *micro-community of knowledge* get to *share* in the knowledge of the community. This appears to be very similar to processes in accounts of how legitimate peripheral participants proceed to mastery in socio-cultural theories of learning.

An *enabling context* is, effectively a community of practice where the emphasis is on new knowledge creation - to be harnessed by the organisation. As such creation of new knowledge becomes more focal in enabling contexts than in communities of practice. That, again, presumes the need for knowledge creation, and consequently knowledge itself, to be focal before creation can happen. The enabling context appears to differ from a community of practice in that it is both less natural and less stable and represents attempts by the organisation to maximise the potential of communities of practice or *micro-communities of knowledge*. Enabling contexts are fluid, almost ephemeral, with members drifting in and out and with boundaries changing sometimes to include non-organisational members.

In both their ideas of *micro-communities of knowledge* and *enabling contexts* Von Krogh et. al. reject a view of knowledge as object in mind in favour of a view of knowledge as distributed or *shared* throughout the organisation. They appear to advocate a vision of greater organisational competitiveness, within a

knowledge economy, premised on the idea that knowledge, particularly key tacit knowledge, is already distributed within the activities of the organisation and stress the mechanisms whereby this tacit knowledge can be further distributed to less experienced members. Within this process learning by the less experienced members is effected. Moreover it is within these activities conducted by micro-communities of knowledge and where problem solving is core, that new knowledge, key to competitive success, is created.

This is very similar to Rogoff (1995). Rogoff also emphasises problem solving within social communities as a *process* [which] *is essentially creative* (p.159) with new knowledge created on several planes but especially by the individual and by the group. Within Rogoff (1995) sharing of knowledge is implicit because knowledge is already distributed.

In another interesting parallel between Rogoff's girl guide study and Von Krogh et al. Rogoff accepts a mediating role for others beyond the immediate socio-cultural group – in Rogoff's case the customers to whom the girl guides sold their cookies. This is an idea central within Von Krogh et al. and one which they claim distinguishes their idea of enabling contexts from Lave and Wenger's communities of practice. What is important in Rogoff's (1995) account is an allowance for a "ripple" learning effect expanding into an extended socio-cultural community. Just as in socio-cultural theories the boundary between the individual and the community is minimised so also is it minimised between the community of practitioners and the wider social environment.

Again from a managerialist perspective Wenger (1998) links participation in communities of practice with an inventiveness which can never be fully captured by codified processes. In other words inventiveness, creativity, the ability to improvise is a feature of communities of practice and, also, of tacit knowledge. This notion of inventiveness replicates Hanks (1991) report of mastery within legitimate peripheral participation as including the ability to anticipate, identify a sense of possibilities within contexts and an ability to improvise or to have the visions of the possible which identifies the professional practitioner. Communities of practice are the seedbed of

inventiveness, creativity, improvisation and imagination leading Baumard (op. cit.) to comment that organisations should actively liberate communities of practice and resist the temptation to control, plan or otherwise manage them. Within this managerialist account organisations are challenged with, themselves becoming the [enabling] contexts within which communities of practice may prosper.

In short, and from a bottom-up perspective, communities of practice form, according to Wenger and Von Krogh et al., the basic building blocks of organisational effectiveness and, by extension, the national competitiveness sought by the Scottish Executive. The notion of distributed knowledge within communities of practice is important and one which connects with the Scottish Executive's aspirations. If knowledge is already distributed the problem of transfer is attended to. The idea of national competitiveness based on a model of learning with a concept in individual mind focus sooner or later encounters the problem of transfer. The distribution, or sharing, of knowledge has to extend beyond small micro-communities to larger organisational and, ultimately, national communities. This should however be less problematic within a model premised on the idea knowledge being, already, distributed.

This position can be compared with the more top down approach, outlined in Chapter 2, which emphasised a desideratum of national competitiveness with enhanced organisational effectiveness requiring to be achieved through improvements in individual performances as a result of learning. The current view ignores the problem of transfer outlined above.

What has been discussed so far are criticisms of the constitutionalist perspective emanating from its knowledge as object view of knowledge - its simplistic account of knowledge as objective, value free and not contestable. It has also been criticised, in part, because of its phenomenological notions of learning and for its failure to attend to dimensions important to learning, for example, identity. Other observations centre on its potential failure to enable connectivity between university learning with government aspirations for national and organisational competitiveness. These other aspects appear to be capable of being better attended to within socio-cultural learning theories. Does

that mean that the constitutionalist perspective should be abandoned and replaced with socio-cultural theories as the basis for curriculum design? Certainly these theories do appear to attend to these blind spots in the constitutionalist perspective but, in turn, may not represent a panacea. When the practice based models are considered, Eraut's comments appear worthy of attention. His argument is that the research into these models is based on relatively low technology, stable, almost pre-modern, cultures and that it would be dangerous to use them as a basis for professional education in the technologically advanced, fluid, almost ephemeral, post-modern organisational contexts. A second argument relates to the classroom based models which venerate authenticity, discussed later, within the classroom. Again the simpler the problem or situation the easier authenticity can be achieved. As problems and situations become more complex the more difficult will be the achievement of authenticity. This is apposite as, even within its simplest definitions, professional practice is characterised by references to its complexity.

It would appear that neither learning model has a stranglehold on what constitutes effective learning for professional practitioners such that a curriculum which combines both models in a dialogic relationship, as Sfard (op. cit.) advocates, appears to promise a better way forward. This would appear to point in the direction of one of the hypotheses outlined in Chapter 1.

4.4 What does Happen - The Lecture Theatre, Practice and Authentic Practice.

What has so far been discussed is what should happen dependent on the theoretical perspective adopted rather what currently happens. It is fairly safe to say that the department, in its curriculum development, does not make reference to any theoretical positions – they are never referenced in any curriculum documents. That is not to say that the department carries out practices which can not be identified as consistent with particular theoretical positions.

There is an emphasis, especially within departmental module descriptors, on lectures and tutorials as mechanisms for enabling conceptual understanding. Given the thrust of the constitutionalist perspective, if this perspective were to

be confirmed as the best suited learning theory for vocational education (hypothesis 1 in Chapter 1) or if it were to remain featured in any curriculum proposal (hypothesis 3), the lecture theatre and the tutorial room would continue as curriculum imperatives. What would be required would be a realignment, particularly if hypothesis 3, is accepted, towards socio-cultural, participatory principles.

Socio-cultural learning theories with a practice focus emphasise learning in the attenuated conditions of authentic practice. These are found in practice. This is represented by the 60 credit, level 3, supervised work experience (SWE) module undertaken by full-time quantity surveying and construction management students and by the similar assessment of SWE by part-time, QS students.

What, so far, has not been discussed is the extent to which authentic practice can be detected as represented in the classroom. Two examples are offered with which the author is familiar. These exemplars are not intended to be comprehensive and, indeed, are limited to parts of the curriculum where the author has first-hand knowledge. Other exemplars may exist within the management or building performance domains of the departmental courses which are not presented here.

4.4.1 The use of “live” sites.

In the technology modules “live” sites are used, at levels 2, 3 and 4, upon which coursework assessments are based. However safety is always an issue - with contractors becoming circumspect about letting students onto site⁴. In terms of Module 333 (author as module leader), which focuses on maintenance and refurbishment of buildings, a large scale conversion project is typically used. Site visits were arranged for tutoring staff, guest speakers from site were invited to tutorials, drawings and other site documents, such as any site investigation report, were obtained and pinned up. Student in groups were asked to develop various strategies to solve “authentic” problems on site. These authentic problems included: assessing design decisions such as the introduction of a

⁴ The construction industry has an appalling safety record with young, inexperienced people shown to be the most vulnerable.

“green roof”⁵, ensuring structural stability during site work, assessing the structural capability of an existing Victorian cast iron and masonry structure etc. The students were asked to consider other issues, perhaps not directly attended to in a technology module, germane to any problem and solution. These might include legal constraints in any temporary support works requiring access to adjoining premises, procurement issues implicated in the selection of a particular technology. Given the large number of students taking Module BSUT333, typically between 120 and 150, a site visit was not considered. However the site was visited by a smaller group of 22 level 4 students undertaking Module BSUT463, who were asked to report on a another range of issues such as site safety, use of plant on site etc. In module BSUT220 students were taken to a greenfield site but could not be taken to the “body” of the site. Access was limited to viewing site activities from a viewing platform.

4.4.2 The interior design studio as authentic practice.

The design studio is traditional in schools of architecture and interior design. In it:

*[.] students undertake a design project under the supervision of a master designer [...] In this space, students spend much of their **working** lives, at times talking together, but mostly engaged in private, parallel pursuits of the common design task.*

(Lackney, 1999, p.2, my emphasis)

Lackney’s terminology is revealing. The studio is a work environment which is task oriented dedicated to resolving design problems. It is not a study area, it is a problem solving area.

Lackney characterises the studio master as someone who provides a *living example of what it means to be designer* (p.3). In studio, students *gather* the individual instructors’ methods and as they progress from studio to studio another possible approach to design is layered upon the last until, eventually, the student will be able to construct his/her own approach to design. The emphasis is on a community of designers from which the individual designer

⁵ Usually a proprietary roof system with some planting but not as heavy nor with the same

emerges. As acknowledged by Lackney the origins of the design studio are traceable, at least, to the Bauhaus with the core studio activity being the desk critique or “crit”. This involves an active dialogue between the student and the studio master lasting from 30 - 40 minutes. During the *crit* the student’s work is reviewed by the studio master, revisions and amendments may be suggested which will better solve the design problem. Following the *crit* the student is expected to more fully explore and test the options which have been suggested by revisiting his/her solution. This process is repeated as a series of design iterations and conversations until a completed design is achieved. At the same time the studio master will critique the students *process of design inquiry* in what Schon refers to as a *language of design* (1983, p.81). Schon conceptualises *design as a reflective conversation with the situation*.

In this *reflective conversation* the master and student are engaged in joint problem solving with the student provided with opportunities to take a key role in the activity when the task or situation permits. Through such successive turns and actions the individual’s knowledge becomes more congruent and communicable with the expert practitioner as, in this case, represented by the studio master. The master, through close guidance of the student, allows them both to collaboratively construct, through meaning negotiation, a common understanding of the problem, its solution and the criteria for assessing the feasibility of the solution. Lackney (op. cit.) has described the studio master during this process as acting:

*as master to apprentices modelling appropriate behaviour,
values, design strategies, and thought processes* (p. 3/4)

4.4.3 Do these examples represent authentic practice?

Can a one hour visit to site substitute for being saturated in the day-to-day professional activities that constitute a building site? Certainly it is an improvement upon a decontextualised description of a site or a decontextualised representation of a site or building in drawings. But the whole process is episodic – Module 333 is one of three modules being undertaken by this group of students. The module may be based on a live project but, at best, the

irrigation requirements of a roof garden.

students dip in and out as opposed to an apprentice, surveyor, engineer or designer on site who is constantly active on that site. Roles and duties of the various actors on a building project remain as represented to the students. Thus it would be explained to the student that the architect and the structural engineer collaborated in a solution – an apprentice to either might be involved in that collaboration. Again the structural engineer might represent how he/she assessed a building erected when there were no British Standards published and at a time when accuracy was not considered a major issue. An apprentice to the structural engineer would have been a legitimate peripheral participant to that process. The legitimate peripheral participant might have been privy to key decisions such as the extent of the site investigation works needed before design work can proceed. The site-agent might talk about the factors that had to be taken into account when preparing the contract programme. A legitimate peripheral participant would have first hand experience of preparing the contract programme. The site-agent might emphasise that a risk assessment was carried out prior to preparation of the contract programme – the legitimate peripheral participant would witness at first hand the extent of the influence such a risk assessment would have on the programme and how that risk fluctuated as the programme unfolded on site. The architect might tell the students that the design of the building was amended in consultation with Building Control whilst the legitimate peripheral participant would have sat in on such discussion – perhaps having to amend drawings consequent on these discussions and have the need to amend drawings explained to him/her. In short it is questionable whether a series of short presentations, even when followed by a question and answer session with site participants, and a requirement to solve some problems emanating from the project can claim to represent authentic practice. None-the-less it is better than requiring students to “solve” abstract generic problems based on representations of a project⁶.

Does the studio, lauded by Schon and Lackney, truly reflect practice? Design is rarely an autonomous process confined to the drawing board or CAD screen. For example, in practice, design makes use of manufactured components which

⁶ Such a problem might start “A developer is proposing an 10 storey office complex with 2

often requires seeking specialist advice from manufacturers. This problem is often confronted in the studio especially the more detailed the design becomes. Structural glazing systems is a case in point. Interior design students frequently ask “Can I do this with a glazing system?” and often the answer is only available from a major manufacturer like *Pilkington* or *Saint Gobain*. In practice an architect would consult with these manufacturers on the design of a structural glazing system – the student only has access to promotional literature. Again in practice boundaries are being crossed. As these manufacturers involve themselves in the design, the issue of design liability arises. This would become a real issue to the practitioner who may have to consult with his insurers. This level of complexity, visible and palpable to a legitimate peripheral participant, is not made evident to the student in the studio.

Generally what appears to be authentic practices look less convincing when put to the test. It is debatable whether practice can be made authentic within the classroom – as much is, grudgingly, acknowledged by Cobb in symbolic interactionism. The role of the teacher is to mediate between meanings in practice and the meanings emerging in the classroom. In short it is a mediated form of practice, and not authentic practice, which enters the classroom via the teacher. However any mediated reality should acknowledge the complexity of professional practice especially that decisions made about technology or design, or contract interconnect in complex ways. More complexly than is captured in any modular system.

4.5 Summary - *both/ and and/ or either/ or?*

What is presented here are various learning theories, or families of learning theories, none of which give a complete account of learning consistent with the structure of the vocational degree courses offered by the Department of Building and Surveying. The structure of the courses is a mix of traditional lecture theatre/ tutorial, practice in the form of SWE and authentic practice within the classroom. As pointed out in chapter 1 this mix varies between courses.

The constitutionalist perspective of Marton and Booth (op. cit.) is silent in terms of learning in the workplace and presumes that vocational education is no different from a traditional general liberal education in universities and that the best way to learn is to study. The situated learning models of, for example, Lave and Wenger (op. cit.) appear pertinent to workplace based learning to the extent that they are drawn on in the management literature e.g. Von Krogh et al. (2000). They have possibly been encouraged by Lave and Wenger's (op. cit.) pointing out that situated learning theory focus is on learning within communities of practice in natural contexts.

Others, such as Roth (op. cit.), Cobb (op. cit.), Rogoff et al. (op. cit.) and Saljo and Wyndhamn (1996) are more concerned with the classroom setting and emphasise the need for authentic practices within the classroom. However the idea of authentic practice within classroom settings could possibly become increasingly problematic as the complexity of practice increases. For example the example given by Saljo and Wyndhamn is of relatively simple postal transactions carried out by young children. Thus professional practice, sometimes defined by reference to being a particularly involved form of practice, could present significant challenges to these theories. The extent to which these challenges are met through the studio based system of the interior designers, supervised work experience and part-time modes of study needs to be considered. As already pointed out in Chapter 2 this will be considered, in the empirical part of the study, by reference to the criteria developed from Sfard (op. cit.) and Prawat (op. cit.).

What appears to be emerging is a possible mismatch between course structure and learning theory prescriptions, probably because course structure, although developed within the context of any prevailing spirit of the age, are unlikely to have been developed with reference to any particular learning theory. As such none of the theories outlined above, of themselves, give a full account of learning as "envisaged" within the courses. In effect the courses appear to be atheoretical conglomerations of techniques. The extent to which a "one best theory" or a "both/ and" metaphor of Sfard will be investigated in the following empirical part of the study.

:: CHAPTER 5 ::

:: Phenomenography(ology) as Methodology ::

5.1 Introduction.

Research into approaches to studying and teaching has been predicated on phenomenography as methodology. Marton has often stressed the uniqueness of phenomenography but, as the name suggests, it is derived from phenomenology. In terms of method, this has manifested itself as one-on-one interviews as the preferred technique with the subsequent development of Likert scaled inventories as research instruments. It is proposed, generally, to remain faithful to this established methodology given that phenomenology, its philosophical root, has been endorsed by a leading researcher within the situated learning movement (Lave, 1996). Lave points out that activity theory and phenomenological social theory *do not exhaust the positions* (p.17) but do cover the majority of postures examining socio-cultural theories of learning. Thus this study is intended to be largely consistent with the main research tradition in the constitutionalist perspective and one of the main research traditions, according to Lave, used in developing situated learning theories. Thus this chapter will investigate the claims for phenomenography as a valid, phenomenologically informed, research methodology.

Theories relating to learning as the constitution of knowledge (Marton and Booth, 1997), and Entwistle's views on approaches to learning, were both derived from and are sustained by phenomenographic research methods (Entwistle, 1997). Indeed the relationship between phenomenography, the constitutionalist perspective, and associated ideas such as approaches to learning is one that appears, sometimes, to go beyond the methodology/theory connection. Webb (1997a/b) has referred to phenomenography as both a methodology and a theory of knowledge (p.195) whilst Prosser (1993) has argued that it is a methodology, but *one that incorporates a view of learning and offers a number of principles for the practice of teaching and learning* (p. 21). Entwistle (1997a) also blurs the methodology/ theory boundary when he states *phenomenography sees learning as relational* (p.129).

5.2 Phenomenological requirements for research methodology.

Phenomenography draws heavily from the modern (Kearney, 1994) philosophical movement of phenomenology, particularly the transcendental versions of Husserl and Brentano which have an almost exclusive epistemic focus. Phenomenology, by attempting to reconcile the subjective act of knowing with the objectivity of the knowable is an interpretivist epistemology. It holds that there is a reality which is capable of subjective interpretation. Central to phenomenology is the notion of bracketing the natural attitude - that is setting aside our prejudices and preconceptions about a phenomenon so that we can better experience it. However not all interpretations are equally valid since there are qualitatively differences in the achievement of bracketing the natural attitude. Later commentators have argued that complete bracketing is impossible and the best that can be achieved is that we become aware of and reflect on the extent to which the natural attitude prevents our fully appreciating reality (see Moran, 2000). In terms of a phenomenological methodology several requirements can be derived. These are:

- The central role of experience in the constitution of findings. In this case the experienced world of the other research participants
- Fallibilism, as opposed to either a certain or a relativist world
- The importance of evidence in the constitution of research findings and the various grades of evidence - that some evidence is more compelling than others
- The importance of perspective with the admission of multiple perspectives, and the implicated notions of *horizons*, especially *external horizon* or context and *open horizon* or future contexts
- And the problem of intersubjectivity - Saljo's (1997) criticism that phenomenography does not attend to how language is used is apposite.

5.3 What is Phenomenography?

Phenomenography is claimed as a research approach which aims to identify people's qualitatively different experiences and understandings of the world, and systematically describe them in terms of *categories of description* (Marton, 1994, 1997). From this definition it appears to be consistent with phenomenology and no different from mainstream phenomenological

research methods. Holstein and Gubrium (1998) identified the central tenet of phenomenographic methods as *how those concerned with objects of experience apprehend and act upon the objects as “things” set apart from observers* (p. 139). By observer they mean researcher - in effect the researcher is decentred, to be replaced by *those concerned with objects of experience*. They argue that this prevents a fictional account of the world being constructed by the researcher. Meantime, Cresswell (1998) identifies phenomenologists as exploring the structures of consciousness in human experiences in order to describe the meaning of the lived experience for several individuals about a concept or phenomenon. So far there does not appear to be a fundamental difference between phenomenography and phenomenological methods. In both cases *person experiencing phenomena* are centre stage with the observer/researcher relegated to a reporting, interpreter role.

5.4 Marton’s Phenomenography.

Given that it was Marton and Saljo (1976a,b) who initiated research into approaches to studying it is worthwhile examining Marton’s particular accounts. Marton defines phenomenography as:

[..] the empirical study of the differing ways in which people experience, perceive, apprehend, understand, conceptualise various phenomena in and aspects of the world around us. The words experience, perceive etc. are used interchangeably. (1997, p.3).

For Marton, phenomenography is a research approach for uncovering the limited number of qualitatively different ways in which a phenomenon is experienced, conceptualised or understood, based on an analysis of accounts of experiences as they are formed in descriptions produced in research with other people. Thus it regards the “subjects” of research as co-participants with the lead researcher who vicariously lives their experiences by initially, at least, stepping back from his or her own. In other words an alignment with Husserlian suspension of belief, i.e. bracketing, in the epoche. Later the lead researcher’s own experiences are re-engaged to *illuminate the ways in which others state an understanding of something* (Hasselgren and Beach,

online, p.3). Within this formulation the quest for variation becomes one of the objects of research whilst, at the same time, acknowledging finite limits to the amount of acceptable variations of experience. This *architecture of variation* becomes one of the units of phenomenographic analysis. This is an important distinction between the phenomenography of Marton and mainstream phenomenological research methods where the emphasis is on clustering *the invariant meaning units into themes* (Moustakas, 1994) in a search for shared meanings. However in the architecture of variation not all variations are admissible. There are limits to the acceptable variations which can be admitted and, moreover, those that are admitted *can [.] be hierarchically ordered* (Marton and Booth, 1997, p.111).

Implicit in phenomenography is the notion that some variations of experience may not be admitted because they lack some form of validity. Similarly some variations of experience may be more readily admitted than, and prioritised over, others. In both cases the role of evidence is central. The first step in research, then, is to describe the qualitatively different ways of experiencing various phenomena prior to such admission and ranking.

Marton argues that people, as a rule, are not focally aware¹ of the acts through which they relate to the world around them. For the most part they act rather than reflect. Thus in phenomenography there is a presumed hiatus between action and reflection which has to be attended to during the research (and learning) process. In the research interview, the preferred method of phenomenography, this *reflexive turn has to be brought about* (Marton, Notes, 1997). This provides a remit for the interviewer. That is to make the interviewee reflect on what he/she has said during the interview by a process of “following up”. The result is a deeper, more thorough exploration, or richer constitution, of the person’s way of experiencing the phenomenon. This should be to the benefit of both the research project and the interviewee/co-participant and implicates a move beyond reflection towards therapy. Thus, for Marton, reflection is separate from action in the world or participation and has to be deliberately abstracted. This is at odds with the reflection during action fundament of socio-cultural research as outlined by Wertsch (1995).

¹ Here he differs from Wenger (1998) who argues that, admittedly, in learning there is no need for focal awareness.

5.5 Criticisms of phenomenography.

Recent criticisms of phenomenography have two sources. Firstly, by Saljo who is generally supportive but is concerned by its more recent trajectory, and, secondly, by Webb (1997 a/b) from a deconstructivist platform. Saljo does not dismiss phenomenography as fundamentally flawed but is critical of some aspects as currently practised. He argues that phenomenography has lost its way but that it still has much to offer. Webb is more hostile and argues that phenomenography's emphasis on empiricism renders it flawed and all results, including those relating to approaches to learning and to teaching, are unsafe.

Saljo's (1996) criticism is that phenomenography has lost the notion of *people as hermeneutic beings* (p.3) who try to make sense of what they experience as part of a discursive community. Consequently Saljo holds that phenomenography has developed a blind spot in its lack of a theory of language and communication such that it has *an almost dogmatic disregard for paying attention to why people talk the way they do* (p.4). According to Saljo language, in phenomenography, is a representational vehicle for conveying concepts from the interviewee to the interviewer and vice versa. Language is perceived as a way of representing reality rather than as an aspect of practice. For Saljo language is both an essential precondition and consequence of participation and if it is reduced to a mechanism for representing the world the research will remain didactic rather than participative. If Marton insists on participatory research then analysis of interview data should focus on language as practice rather than language as a representational device. What Saljo has in mind is a re-engagement by phenomenography with a, lost, discursive thrust. He detects these discursive thrusts as present in the research methods used within the situated traditions.

Yet Marton has emphasised the need for a participative or discursive moment to the interview indicating that it is not problematic. The interview should be conducted as a:

*joint (interviewer- interviewee) exploration - constitution -
of the phenomenon in question as seen by the interviewee.
This is all there is to an interview. (Marton, Notes, 1997).*

So, on the surface, Marton appears to favour the interview where language is used to constitute, rather than represent, everyday reality. Yet Marton's agenda is not everyday reality - it is the reality of the university physics laboratory and biology tutorial where everyday use of language is excluded in favour of more specialised uses.

Despite claiming that phenomenography is not phenomenology Marton implicates the notion of Husserl's epoche

They [the participants] are supposed to adopt an attitude which is similar to that of the philosophers who exercise the Husserlian method [...] (Marton 1994, p.3).

He, in effect, charges the interviewer with the responsibility of enabling the interviewee to bracket his/her preconceptions. This, it has been argued, is an extremely difficult task for the individual to accomplish for him/herself, never-mind accomplish it in others. Uljens (1996) refers to this dilemma as the *conscious researcher's awareness* (p. 12). The best that can be hoped for is an acknowledgement that reflection is always incomplete, both by the interviewer and the interviewee. As Crotty (1996) puts it:

From the phenomenological point of view, the best we can do is to minimise the influence wielded by our culturally derived set of meanings via the language we use. (p. 166).

Saljo's central criticism is of phenomenography's, as practised, neglect of this *language we use*. The difficulty is, that participation metaphors regard language or discourse during participation as central to learning. The question then becomes: Is phenomenology, or phenomenography, a research programme antiethical to one of the fundamentals of one of the phenomena it seeks to investigate? A different answer to this question is given dependent on the version of phenomenography considered. Hasselgren and Beach (op. cit.) trace phenomenography, as a hermeneutic, back to phenomenology's fundament that:

knowing subjects are of the world and in it, and so too are their experiences (p.10).

This would regard bracketing, in the epoche, of existence from experience as creating a false dichotomy which would prevent true phenomenographic inquiry. Saljo's, equally, hermeneutic turn, asserts that things are never given of themselves but that their meaning must always be arrived at through

interpretation. The basic tenet is to attempt to understand things in their own context and on their own terms. This is the position taken by Crotty (op. cit.) when he states that *phenomenology is inescapably a hermeneutics* (p.166). This hermeneutics is what Saljo claims phenomenography must return to by, in particular, attending to how language is used by participants and not just regarding language as representational device during interviews.

A less forgiving criticism is levelled by Webb (1997a/b). His deconstructivist analysis, focuses on phenomenography's, or Marton's version of it, insistence on being empirical. He claims that this results in a positivist desire for scientific generalisation which prevents a hermeneutical search for understanding. Webb holds that as bracketing can never be complete it represents a fatal failing within phenomenography. It appears that Webb seeks complete access to other peoples' conceptions. Yet there is always a tension between the researcher's desire to investigate and the participants' rights to privacy. Total setting aside of preconceptions is seen as both a transcendental act by the participant and as a vehicle for making his/her mind transparent to the researcher - what Webb refers to as *authentic openness* (p.225). Through authentic openness a researcher secures total access to the mind of the other. This study holds that there will always be no-go areas in the mind of the other which the researcher should respect. Thus the phenomenographic research act should be an incomplete meeting of reflective, not transcendental, minds. There is a boundary which has to be delimited during the interview and in the report.

5.6 Techniques within Phenomenography.

Marton allows for a variety of techniques for data gathering, including group interviews, but expresses a preference for the one-on-one interview principally because it is individual experiences which are his prime concern. In terms of analysis Marton is highly prescriptive about the procedures to be adopted. He describes it as a stepwise process of:

- The researcher to bracket pre-conceived ideas (but see above)
- Transcribe verbatim
- Bring transcripts together to make an undivided data set.

- Search for similarities of understanding (or experiencing) of the phenomenon
- Search for variations of understanding (or experiencing) of the phenomenon
- Develop pools of meanings - what all the participants have said about the same thing
- Reintroduce individual boundaries to determine what the same person has said about other related things. This is required to make sense of particular expressions in terms of the collective as well as of the individual context. Marton (1994) refers to this as the *hermeneutic element*
- Group relevant quotes together. This establishes the critical attributes of each group of quotes and
- Allows the focus to change from relationships between individual quotes (expressions) to relationships between the critical attributes of groups of quotes
- By comparing the critical attributes of the groups of quotes *we can characterise the variation in how a certain phenomenon is experienced, conceptualised and understood* (1994, p.3)
- Sets of *categories of description* emerge which represent different capabilities for seeing the phenomenon in relation to a given criterion
- this ordered complex of categories has been referred to as the *outcome space*.

The *categories of description* and the *outcome space* are the main results of a phenomenographic study. The different steps in the analysis have to be taken interactively, as each step has implications for both the step which follows and for the steps which precede. As such the analysis has to go through several runs.

This emphasis on prescription is in agreement with mainstream phenomenological methods. Crotty (1996) identifies three phenomenological methods: the Colaizzi-style method, the Giorgi-style method and the van

Kaam style method. Each of the methods are specified as a series of steps in much the same way as indicated above for Marton's phenomenography. Crotty then proceeds to generate his own prescription. Crotty (op. cit.) has itemised the steps in each of the three methods (pp.22 -23), and concludes that they all

[...] display a common concern to derive themes or categories from the data, which coalesce to form a comprehensive description of the total phenomenon.

(Crotty, 1996, p.23)

Thus the similarities between phenomenography and phenomenology have been stressed as an emphasis on reflective bracketing, fallibilism and prescription. The major distinction between phenomenographic studies and other phenomenological research methods are two-fold, and have already been alluded to as the choice of subjects and the centrality of *the architecture of variation*. In general, phenomenological research concerns itself with experiences to be found in the everyday world such as grief, coping with bereavement, experiences of new fathers etc. with these phenomena expressed in terms of everyday language use. The phenomenography of, in particular, Marton and Entwistle and Marton (1994) deals with students' conceptions in the sciences such as light, force or catenary theory in building structures. These are not everyday concepts and indeed are concepts within domains where specific linguistic apparatus have been developed. In other words phenomenography has concerned itself with arriving at understandings of and within academic disciplines with very specific forms of discourse. As discussed Saljo (op. cit.) has levelled this criticism at phenomenography and it is accepted that this may, indeed, delimit the types of inquiry where phenomenography is, or is not, appropriate. The practices that are being considered in this study: quantity surveying, interior design and contract management have similar linguistic characteristics as the scientific academic disciplines studied by Marton. In that sense phenomenography, considered as derivative from the phenomenology of Husserl and related to the other variants of phenomenological research methodologies, offers much to this study.

This study holds that what unites phenomenography with the other phenomenological methodologies is more robust than that which separates

them and that a phenomenography which reconciles itself to current mainstream phenomenological methods will be an improved version. These improvements have been mapped out by Saljo (op. cit.) as a return to the discursive, hermeneutic origins of phenomenography with a consequent sensitivity to how language is used during research.

Where this study does differ from mainstream phenomenology and phenomenography is that the *categories of description* sought by Marton have already been identified within Table 2.3. What this study seeks to do is confirm the validity of these categories of description. Thus the main headings, identified in the central spine of Table 2.3, will become the basis of the interview schedule (see Appendix C).

5.7 Group v Individual Interviews.

This study makes use of group interviews. The initial reason for selecting group, rather than one-on-one, interviews came from a feeling that the power relationship between a lecturer/interviewer and a student respondent/co-participant would contaminate the data, and that no amount of precautions on the part of the interviewer could overcome this problem. Group interviews differ significantly from one-to-one interviews - they have a different dynamic.

Firstly they have the natural ability to elicit shared understandings of a phenomenon without suppressing individual expressions. Indeed their appears to be a tension between the possibility of someone *holding the floor with a personal anecdote* [...] *quickly became an established feature* (Atkinson, 1993, p.67) and the opposite risk of group-think where people adjust their own behaviour in response to their impressions of other group members (Carey and Smith, 1994, p.124). Despite this, the group interview does allow data to be analysed at both the individual level and at the group level but only if the relationship of the individual to the group can be explicated. Secondly, the extent to which dissensus, or *architecture of variation*, is present within a group should be more readily obvious than in a series of one-to-one interviews. Again this needs qualification - dissensus will not emerge if the interview is perceived by the participants as an exercise in consensus building. However, in this study, membership of individual groups, was largely homogenous, drawn from single cohorts of

classes rather than member composition drawn from across cohorts. Thus homogeneity together with a, largely, shared experience of learning tends to suggest that a consensual, rather than dissensual, view will emerge. What may also occur is a greater tolerance of dissensus within such a group. The *architecture of variation*, referred to as important in phenomenography, may emerge, more obviously, between groups rather than within groups. Thirdly, in group interviews, the interview dynamic is more readily acknowledged than in the one-on-one interview. Group interviews should be used specifically for the ability of group interactions to generate data. However, group interactions or dynamics may be complex, especially if groups have been drawn from established social structures such as the class. It may be that people who share a common experience of a phenomenon will be more willing to talk amidst the security of others who share the same experience. As Lederman (1990) argues, group members, especially from a homogenous group, will *feel comfortable with one another, and also [...] draw social strength from each other* (p.118). Lederman holds that this results in increased openness and candour with a consequential therapeutic effect. If Lederman is correct about the therapeutic dimension to group interviews, and others such as Atkinson (1993) and Flores and Alonso (1995) agree, then the requirements of phenomenology and phenomenography for reflection amongst the participants is likely to be met and, even, surpassed. A therapeutic effect is unlikely to happen without reflection. Thus the group may be more ready to make the *reflective turn* of Marton than the individual respondent in the one-to-one interview. Fourthly, Frey and Fontana (1993) argue that the group interview can stimulate recall and opinion elaboration and allows re-evaluation of previous positions (p.25). Frey and Fontana, assert that group interviews are instances of intersubjectivity in research which result in the vicarious experiencing by the researcher valued by Marton (op. cit.).

In a group setting actors are able to obtain feedback on their views of reality; they can respond to other or different views; and the researcher can vicariously experience a reality in the same manner as the respondent through interaction [...] (Frey and Fontana, 1993, p.25)

Consistency of group interviews with phenomenology is stressed by Brotherson (1994) who claims that [focal] group interviews are compatible with three of its key assumptions. That multiple views of reality can exist - and co-exist. In group interviews individuals are invited to participate in a forum where their diverse opinions and perspectives of a shared reality are desired.

Secondly interactions between the interviewer and the respondents, and between respondents, are recognised as having the potential to add depth and dimension to the knowledge co-constructed. In this sense the group interview is similar to the enabling contexts of Von Krogh et al. (2000). In phenomenological research the interaction between the researcher and the respondents is *perceived as deliberate rather than a nuisance by-product*, with the researcher charged with encouraging reflection, if not bracketing, by the individual respondent. Similarly in the group interview, research is regarded as a co-reflexive process because the interviewer, is collaboratively and dynamically assisted in this process by the other group members. In other words there is a group tendency towards individual reflection as individuals are challenged by statements from other group members. In a sense interview groups, especially if drawn from homogenous groups, may be regarded as short lived but intense communities of co-learners or enabling contexts where the tacit is, hoped, to become focal.

The final phenomenological acknowledgement by Brotherson (op. cit.) is that truth is influenced by perspective. Moreover truth is explained by describing a particular set of issues or concepts in relationship to a particular context. The goal is not to generalise to larger populations. Rather, the goal is to describe findings within a particular situation. The aim is to conduct an interactive discussion that can elicit a greater, more in-depth understanding of perceptions, beliefs, attitudes and experiences from multiple points of view and to document the context from which those understandings were derived.

5.7.1 Analysis of Group Data.

This still leaves a problem for analysis. Marton (op. cit.) Moustakis (op. cit.), Cresswell (op. cit.) all predicate their phenomenological analytical structures on the presumption of one-on-one interviews. Referring to group interviews, Kvale (1996) perceives analysis as potentially problematic as

group interactions reduce the interviewer's control and the price may be *relatively chaotic data collection* (p. 101). Similarly Carey and Smith (op. cit.) concede, with reference to focus groups, that methods of analysis of group data are not well developed. Brotherston (op. cit.) follows the phenomenological tradition of developing a prescriptive approach to analysis which she refers to as *developing an organising scheme* (Table 5.1). Brotherston's prescription admits of the use of multiple methods but, again, tends to emphasise a search for consensus ignoring the possibility of the *architecture of variation*. Yet there is nothing in her formulation which would specifically exclude it. Equally, despite its centrality in his version of phenomenography, there is nothing in Marton's prescriptions which specifically targets it.

:: Table 5.1 ::

Brotherston's (1994, p. 114) Analytic Prescription for Group Interviews

- Researchers familiarise themselves with the data by reading and re-reading transcripts - as this process progresses topics themes and patterns are identified and an organising scheme begins to develop. Data are continually coded as this scheme is refined.
- During this process data collection and analysis occurs recursively and simultaneously.
- During which the researchers engage in reflective activity and record their perceptions, interpretations and expectations.
- As this process progresses, topics, themes are identified [...] until a point of data saturation (where no new ideas, themes or patterns are emerging) is reached.
- Part of any analysis includes triangulation with other data gathered in different contexts and by different methods.

Although Marton's prescription is much more detailed, in terms of the number of steps required, it is similar to Brotherston in the significant matters. Thus the analytical framework is derived principally from Marton, but conscious of Saljo's (1997) criticism, and Brotherston. It also follows the prescriptive traditions of both phenomenology and phenomenography.

Brotherston’s prescription maps reasonably well onto Marton’s with the points of contact shown in Table 5.2.

:: Table 5.2 ::
Brotherston’s (1994) Prescription for Analysis of Group Interviews and Marton’s Phenomenographic Analysis.

Brotherston	Marton
Themes and Patterns identified	Search for similarities of understanding.
Organising scheme develops – data continually coded as scheme is refined	Develop “pools of meaning” – what all participants have said about the same thing.
Topics, themes identified until point of data saturation.	Allow focus to move from individual quotes to relationships between critical attributes of groups of quotes.

Saljo’s criticism of phenomenography, appears equally valid of Brotherston and perhaps is even more relevant given the context of the groups that were formed. In terms of the group interviews conducted in this study the question Saljo poses is were these genuine group interviews or were they a group of students present with a lecturer? In other words were they a form of tutorial where the students’ language practice would dissolve into the practices used in tutorial? Although precautions were taken to minimise or prevent this effect the answer will only emerge after, and as part of, analysis. Certainly, after the initial period, talk was much more animated than normally is the case in tutorial.

Certain desirable precautions could not be accomplished e.g. conducting the interviews away from the institutional setting was deemed unnecessary, paradoxically by the student groups, as it would extend the overall time required for each session. Most of the student interviews were conducted in the university library - at least away from the department. In a sense it would be easy to add Saljo’s reservation as another prescriptive step e.g.

Check for the way people have expressed themselves but this would be to misinterpret Saljo. Saljo's philosophy appears to run counter to the notion of prescription, that prescriptions get in the way of respondent voices. What Saljo is recommending is a degree of sensitivity in the conduct and interpretation of data gathered from interviews whether one-to-one or group. This returns us to the underlying notion of phenomenology/ography as intersubjectivity - as a meeting of reflective minds.

5.8 The Inventories.

The use of inventories would appear inconsistent certainly with the deconstructivist suggestions of Webb (op. cit.) and perhaps the emphasis on hermeneutics advocated by Saljo (op. cit.). However within the empirical tradition of phenomenography, criticised by Webb (op. cit.), they are acceptable as method². After the initial work by Marton and Saljo resulting in the concepts of approaches to learning some researchers e.g. Entwistle and Ramsden (1983) and Biggs (1993) *detected a certain consistency in student's approaches leading to the design of inventories* (Entwistle, 1997a, p. 133). In other words approaches were considered stable and not influenced by contextual variables. The inventories, which were developed, reflect this presumption. Entwistle now admits that approaches to learning may exhibit both stable and variable characteristics. If this is true, there remains a place for the inventory in a study into these phenomena to identify those factors which induce stability and those which induce variability. It may be that membership of a common university department may be a stabilising influence whilst individual course characteristics may be a variable influence. It may be that that variable exposures to practice influences approaches to studying/ learning by students and also approaches to teaching by staff. This study uses an abbreviated combination of two inventories Entwistle's attitude to study inventory (ASI) and, the more recently developed Prosser and Trigwell attitude to teaching inventory (ATI). The use of inventories, however, is anticipated as having a limited capability being restricted to an analysis internalised within the assumptions of the constitutionalist dimensions of this study. However, in Chapter 1, there were

² Inventories are, perhaps an extreme, form of quantitative research and Saljo, with Wyndhamn (1996) has used quantitative methods in a study into situated learning.

elements of experience within the department under study which appeared inconsistent with the constitutionalist perspective and these may be revealed, or elaborated upon, through the inventory. For example any corrosive effect, of supervised work experience (SWE) predicted within the constitutionalist perspective should be measurable through a “before and after” study.

On the other hand the phenomenographic, group interview, part of the study is anticipated as empirically contributing to both aspects of the study. That is, the extent to which notions about learning are explainable within the constitutionalist perspective and the extent to which other theories of learning may be more appropriate.

:: CHAPTER 6 ::

:: Methods ::

6.1 Introduction.

This study uses group interviews of both students and teaching staff involved in the identified courses. As mentioned in Chapter 5, and in support, an abbreviated and modified version of Entwistle's (1997) Attitude to Study Inventory (ASI) and Prosser and Trigwell's Attitude to Teaching Inventory (ATI) will also be used. Thus the study will be mostly qualitative with some quantitative support.

In terms of the debate between quantitative and qualitative methods, it meshes with Firestone's (1990) thesis that no method is paramount. In terms similar to those used by Sfard, when discussing metaphors of learning, Firestone regards research as a discourse between multiple methods in a search for *interesting knowledges* (p.123). Thus the quantitative/qualitative debate should be considered as an opportunity for a *both/and* dialogue between different presentations of results rather than an, *either/or*, call for one set of results having primacy over the other. For Firestone the choice of method(s) is determined from the requirements of the study.

Whilst the tradition in the literature on approaches to studying and teaching allow both methods generally one, only, is used in any particular research report. Thus Entwistle has used phenomenography in isolation (with Entwistle A., 1991) and the ASI in isolation (with Tait, 1990). Prosser and Trigwell (1999) argue for the use of both quantitative and qualitative methods stating:

We hope we have been able to show [...] how qualitative and quantitative methods can be used in complementary ways to address research questions. (p. 172)

but they also tend to limit themselves to one method in any individual research report. However, Saljo and Wyndhamn (1996) combined a quantitatively analysed experimental method with a qualitatively interpreted observational study. Saljo thus appears to not only endorse phenomenography, provided it takes more proper account of how language is used by respondents, but also perceives a role for quantitative and qualitative methods dialogically related in the one study.

6.2 The Inventory based Questionnaire.

The questionnaire was issued to selected students (Table 8.1) and , as far as possible all, staff in the Building and Surveying Department. Returns were received from 94 students and 28 staff. The structure of each of the courses, particularly with reference to supervised work experience (SWE) requirements have already been described (Chapter 1).

:: Table 6.1 :: Questionnaire Responses by Participant Groups.

Students	Staff
<u>Final Year</u>	
16 Part-time Quantity Surveying	19 Full-time BSU staff
18 Full-time Interior Design	4 Part-time staff (all QS)
21 Full-time Quantity Surveying	5 Interior design staff
24 Full-time Construction Managers	
<u>2nd/3rd Year</u>	
14 Second year QS and CM before SWE	
the same 14 on return to 3rd year	

The department runs a twin track approach of courses (programmes) and modules with each course composed of modules which may be shared with other courses. Moreover some modules are “core” to a course and some are “options”, available in final year only. The degree of integration between students and students and students and staff will depend on course and options chosen by individual students. Thus the full-time QS’s, the part-time QS’s and the full-time construction management students would come together for formal classes such as “Facilities Management”. However their career trajectories are towards being QS’s and construction managers rather than towards being “Facilities Managers” such that students cohere around courses, not modules. None-the-less students also meet in shared access areas such as computer laboratories. The exception to this rule are the interior design students where a significant part of their programme revolves around the studios which are located in an annex. However they attend the main building for lectures and tutorials for non-studio based subjects. They also share the computer laboratories, located in the main building, with the other student groups.

In terms of teacher/student contact the full-time BSU staff teach all student groups including the interior design students. That does not mean to say that all BSU staff would teach ID students. The part-time teaching staff teach, basically, “QS” modules relating to the financial and contractual management of contracts but would not, normally, teach ID students. Other full-time students may come in contact with this group of staff depending on their selection of options in final year. The interior design staff teach exclusively to interior design students and are based in the studios - it would be rare for any member of the ID teaching staff to teach any other student group.

As mentioned in chapter 1, the different student groups had differential experience of practice. The periods of SWE given in chapter 1 are course requirements. In terms of practice, for the full time students, the period of SWE should be of interest and the inventory was issued to immediately before (at 2nd. year) and after SWE (on return to the second semester of 3rd. year). All of the 2nd/3rd year students who completed the questionnaire were interviewed in a group setting.

The abbreviation and adjustments to both inventories are described below. Both students and staff were given the opportunity for anonymity. The interview part of the study was primarily based on group interviews with the data analysed using a version of phenomenography which took account of Saljo’s (1997) criticisms (Chapter 5) and which recognised the need to reconcile phenomenography’s preference for one-to-one interviews with the group interview approach.

The strategy involved issuing the adjusted combined inventories and simultaneously assembling and undertaking the various group interviews. The inventory data were to be quantitatively analysed whilst the interview data were to be phenomenologically/graphically analysed. Analysis, at least of the inventory data, was to be carried out jointly by the lead researcher carrying out initial statistical analysis and discussing results, particularly any anomalous results, with the reconvened interview groups. The intention was that the interview groups would take on a new role of check-analysers of the inventory data.

6.3 The Questionnaire - composition and analysis.

The attitude to study inventory (ASI) was, according to Entwistle (1997a/b) developed from phenomenographic studies on the presumption that the various approaches to study were stable across contexts. Without defining their presumptions Prosser and Trigwell (1999) also develop an inventory, the attitude to teaching inventory (ATI), again from earlier phenomenographic research. They, with Waterhouse (1999), used their inventory in association with Biggs' study process questionnaire (SPQ) (1987) to investigate relations between teacher's approaches to teaching and student approaches to learning. In their study teachers completed the ATI Inventory and a modified version of the SPQ.

Trigwell et al. (1999) results indicated that an information transmission/teacher focused approach to teaching is strongly associated with a surface approach to learning by students but that a conceptual change/student-focused approach to teaching is less strongly associated with a deep approach. In the context of methodology, the result is less important than their methodology of using two separate inventories and comparing results. They do urge caution in interpreting the results as they acknowledge that the SPQ is a well established inventory whereas they accept that their own ATI:

[...] is still in the early stages of development, and can be expected to be substantially improved with further development
(Trigwell et. al. p.68)

This study also makes use of two Inventories Entwistle's ASI and Prosser and Trigwell's ATI. Whereas the whole of the ATI was used only questions relating to four sub-scales, deep, surface and strategic approaches together with questions relating to intrinsic motivation, regarded as an important correlate, were used from the ASI. This shortened the ASI questions from 64 to 18 which, when combined with 16 questions from the ATI gave a total of 34 questions (Appendices A and B). Richardson (1990) has shown that the ASI remains reliable when shortened in this way. Using the multivariate statistical techniques preferred in other studies, of factor and cluster analysis, would require approximately 1150 respondents - more than all the students within the department. Accordingly other bivariate statistical techniques were used. Techniques used were comparisons of means such as *t*-test and Analysis of Variance (ANOVA) and measures of association such

as correlations using Kendal's tau-*b*. The questionnaires were modified in the same way as described by Trigwell et al. (1999).

6.3.1 Caution

Both Inventories are self reporting and as such vulnerable to social desirability bias. That is, respondents to questionnaires respond in a manner which they think the “good” person would respond. The questionnaire, like the original versions, is prefaced by a short introduction explaining its purpose to respondents, which may encourage respondents towards the socially desirable response. Given Webb's (op. cit.) and Entwistle's (op. cit.) assertions that the literature on approaches to studying have been influential in UK higher education this could manifest itself more in teachers' responses. As mentioned in Chapter 2 the literature on approaches to studying, with its hegemonic status may represent a context for teachers - and a context recognised as such by them. The alternative of not giving such a preface was rejected on the basis that it was unethical to ask people to complete a questionnaire where the purpose was hidden. A second worry stems from both inventories originating from the same school of research such that they may naturally confirm each other. That being products of phenomenography which constituted the learning theory the worry is that the inventories may no longer interrogate the theory but, rather, “verify” it. Webb (1997b) refers to this *as hermeneutical prejudices which guide expectations* (p.227). This is where a community of researchers work within a common set of assumptions which, then, inform research questions operationalised by tools developed from the same set of assumptions. In other words the theory has manufactured the research instrument in order that the research instrument supports, verifies or confirms the theory. The history of research in this area would indicate that this may be, at least, plausible. The original work was carried out by Marton and Saljo in 1976 (1976a,b) and it was not until 1983 that the ASI started to emerge as a research instrument and 1999 before the ATI emerged. Thus the concept of approaches to studying, developed initially from phenomenography, had time to establish themselves as “theory” before the “confirmatory” inventories were developed. Thus it is regarded as unsafe to rely exclusively on the questionnaire/ joint inventories for this study. Hence the importance of the interviews.

6.4 The Interviews

Group Interviews were held with student and staff groups as identified in table 6.2. These interviews were held during the second semester of an academic year.

:: Table6.2 :: Participant Interviewees by Grouping ::

Students	Staff
Final year quantity surveyors – as a group of six	Core full time quantity surveying staff As a group of 3
Final year quantity surveyors – Part Time – as a group of six	Part-time quantity surveying staff As a group of two + two one-to-one interviews
Second year construction managers – before SWE. - as a group of eight	Core interior design staff As a group of five.
Second (third) year construction managers – after SWE - as a group of eight	
Second year quantity surveyors – before first period of SWE - as a group of four	
Second (third) year quantity surveyors – after SWE - as a group of four	
Final year interior designers – as a group of eight	

It had been hoped that the part-time teaching staff could be interviewed as a group of four. This proved impossible and three interviews, one with a group of two and two one-to-one interviews, resulted. Each interview session lasted from 1 to 1.5 hours. It had been hoped that the interviews, with students, could be carried out at a location beyond the university. However when this was raised with the likely participants the feeling was that this would be too time consuming. It was however felt important to locate the interview sessions out-with the confines of the department and a small room was used in the university library for this purpose. All interviews were audio taped with two tapes running to ensure all group members were heard. Video taping was experimented with, and rejected as the sound quality during group interviews was found to be unacceptable.

From the pilot study (PRO5) it was noticed that, in group interviews, responses to early questions tended to be limited to one word or one line answers, but, as the interview developed, the responses became more elaborate and longer. This was particularly true of interviews with student groups. The strategy for the conduct of the interviews thus became one of a quick overview of the issue with a series of questions to map out the direction, what Crabtree et. al. (1993) refer to as *the grand tour* (p. 143), with a return to the main question about 10- 15 minutes into the interview. In practice this restart to the interview sessions did not require deliberate intervention by the interviewer as a high element of recursion tended to be present naturally. In general this strategy worked for the student interviews but was, mostly, unnecessary for the staff who tended to launch into longer, more elaborate responses earlier. Participation in the interviews was voluntary, students were asked to tick a box in the questionnaire to indicate their willingness to take part in interviews. The groups were homogenous and tended to represent natural groupings by student cohort. Mixed groups were considered but it was felt that the more natural setting of the homogenous group, drawn from the established social structure of the class, would result in more candid responses and robust participation by, in particular, student members (Lederman, 1990).

:: CHAPTER 7 ::

:: Quantitative Analysis from Combined Inventories ::

Quantity has a quality all of its own. (attributed to Stalin)

7.1 Introduction

In Chapter 1 it was suggested that the campus focus of the *approaches* literature and the constitutionalist perspective of Marton and Booth (1997) would have predictable implications for the various groups, both students and staff, under study within the Department of Building and Surveying. This chapter sets out to examine the extent to which these implications manifest themselves within the department when tested by an inventory research instrument developed within the agenda of the constitutionalist perspective. In particular, it sets out to examine the suggestion that the more the student groups were denied access to the campus, where the deep approach is presumed to be venerated, and the more greatly they were exposed to the workplace, the less likely would that group of students be able to generate or maintain a deep approach to studying.

A similar set of arguments could be made in terms of Prosser and Trigwell's (1999) approaches to teaching, that the students with greater campus access would expect a greater conceptual change/student focus (CCSF) approach from teaching staff than would, especially, part-time student groups. This latter group might be expected to prefer an information transfer/ teacher focus (ITTF) approach. Combining these arguments, it would be expected that there would be a level of association between deep approaches to studying and teaching approaches which favoured conceptual change. Another association might be expected between the surface approach to studying and teaching approaches which favoured information transfer.

It follows that the analysis within this chapter is highly internalised, being conducted within a framework circumscribed by the approaches literature and the constitutionalist perspective of Marton and Booth (1997). With this caveat in mind, the Likert scaled data from the combined/modified inventories were entered into SPSS Version 9. The five point scale, used by both inventories, was adopted, giving a median, or mid-point value of three – as in both of the original inventories respondents were discouraged from using the median score (See appendices A and B).

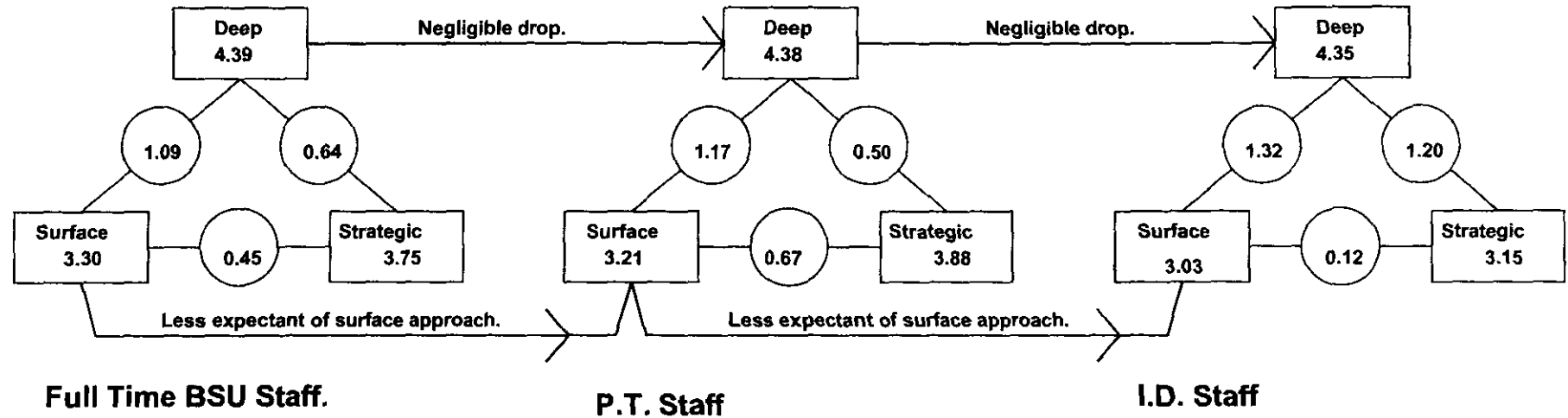
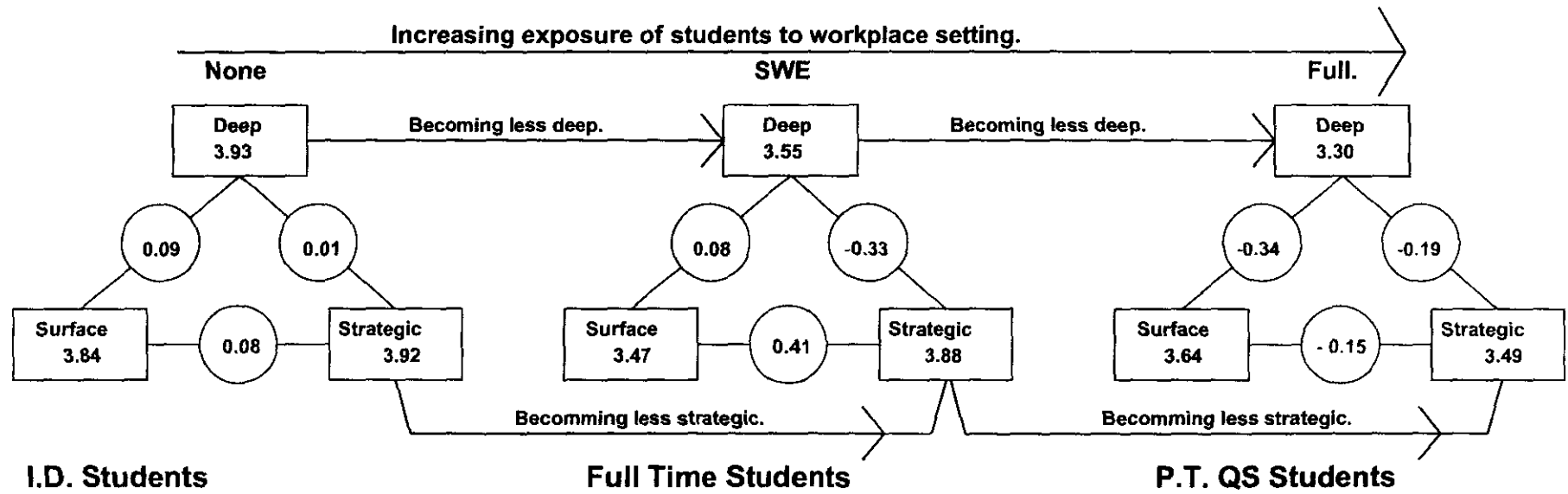
7.2 Presentation of results

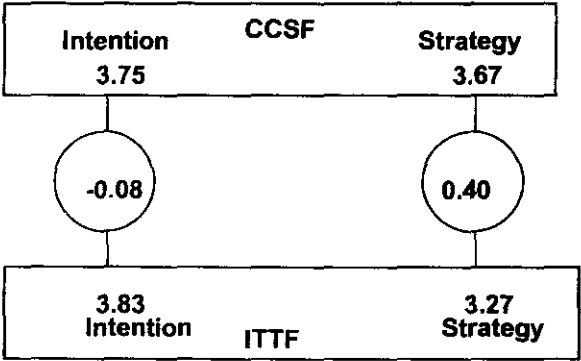
Initially a simple averaging of results was undertaken. These averaged results were used to compare differences between individual groups in terms of the approaches available to that group and their expectations of other groups. These results are summarised in Figures 7.1 and 7.2. Where negative results are generated, these are represented in Figs 7.1 and 7.2 in red.

Firstly, differences were sought within the scores for each of the approaches to learning between the various student groups and whether there were different expectations between different groups of students in terms of the approach to teaching by lecturing staff. The flip side of this coin is the extent to which there are differences in approaches to teaching recorded by different teaching groups, and whether different teaching groups expect different approaches to studying from students. Answers were sought to questions such as: “Do the Interior Designers use a deep approach more than the part-time students?” and “Do part-time teaching staff use a conceptual change/student focus approach more than full-time teaching staff?” “Do part-time students expect a different teaching approach from full-time students?” etc.

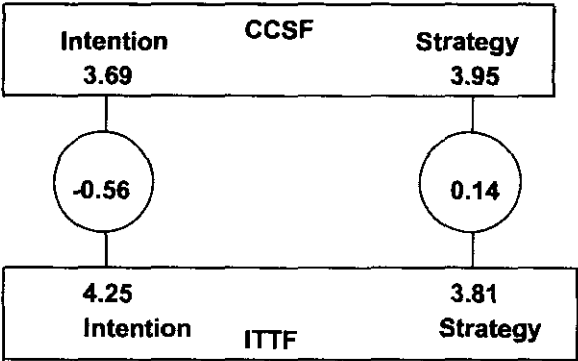
Secondly, comparisons were made within the groups seeking answers to questions such as: Does a student group favouring the deep approach abandon use of the other approaches? Do each of teaching staff groups favour a conceptual change/student focus (CCSF) approach over an information transmission/ teacher focus approach (ITTF)? This analytical approach within the groups can be extended to examine the extent to which the deep approach to studying is associated, by all the inventory respondents, with a CCSF approach to teaching and, conversely, the surface approach to studying with an ITTF approach to teaching.

A third potential comparison is to examine student changes in approaches to studying and their changing expectations of teaching approaches as a result of supervised work experience (SWE). This was undertaken with a limited “before and after” test using the inventory with the expected result being a deterioration of the deep approach scores.

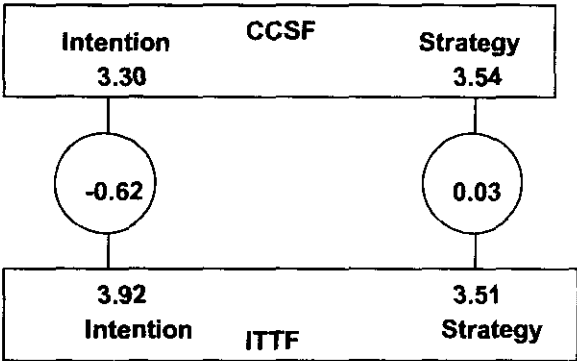




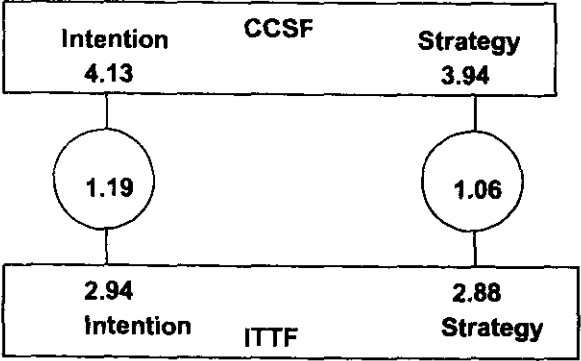
P.T. QS Students



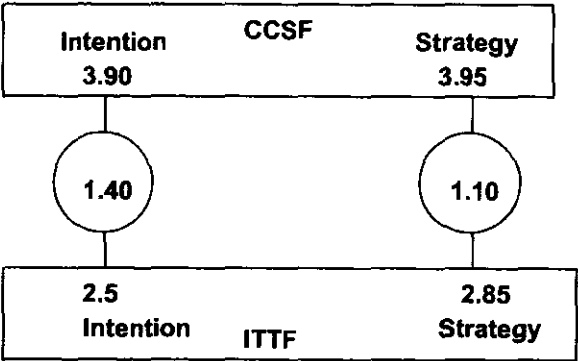
I.D. Students



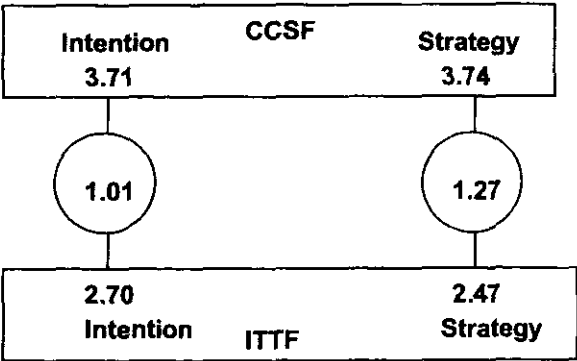
Full Time Students



P.T. Staff



I.D. Staff



Full Time BSU Staff.

Whilst figures 7.1 and 7.2 present these results in graphic format the inventory data were also subjected to statistical analysis using standard *Comparisons of Means* tests, available within SPSS, i.e. the “*t*” test, for the before and after SWE study, and one way ANOVA (Analysis of Variance)¹. The data were also subjected to a correlation test to examine the level of associations between responses i.e. was a deep approach to studying by the student associated with a desire for a conceptual change approach from the teacher? Because the data were discrete, Kendall’s tau-*b* was preferred to the more common Pearson’s product moment correlation. It should be remembered that correlations are measures of association and not measures of causation or determination.

7.3 Comparison of Means

The means, by student and staff groupings, are shown in figures 7.1 and 7.2. Figure 7.1 shows the mean scores for approaches to studying whilst figure 7.2 shows the means scores for approaches to teaching. The mean scores for each group are indicated, in both figures, in the labelled boxes with the differences between the mean scores between approaches, for each group, circled. With the three approaches to studying this results in a “triangular” diagram for each group and each of the diagrams place the deep approach at the apex of a triangle to act as a benchmark between the groups.

In terms of the mean scores for approaches to studying, the first noticeable point is that none of the grouped values for any of the approaches are less than the median value of 3.00. This suggests that none of the approaches to studying, in particular the *surface approach*, is explicitly rejected by any of the groups studied.

When student responses are compared with teacher responses all of the student groups score the *deep approach* lower than any of the teaching groups. In other words although the student groups indicate a preference for a deep approach the teaching group expect students to adopt an even *deeper approach*. The highest score for the *deep approach* amongst student groups was 3.93 (for ID students) whilst the lowest score for teaching groups was 4.35 (for ID staff).

¹ Whilst the “*t*” test compares means and standard deviations between samples drawn from two populations only, ANOVA allows the same comparisons from results obtained from

When the surface approach is considered a similar pattern emerges. The student groups results range from 3.47 to 3.84 (ID students) whilst staff range from 3.03 to 3.30. In other words students were inclined to use the surface approach more than staff expected. Although the student groups are more inclined towards the strategic approach there is substantive overlap between staff and student groups when this approach is considered. The ranges being, for students 3.49 (PT, QS) to 3.92 (ID students) and, for staff, from 3.15 (ID) to 3.88 (PT).

When the student groups are considered separately a pattern appears to emerge consistent with the constitutionalist argument that the more the student is detached from campus the less likely a *deep approach* will be used. The interior design students, with no formal work experience, score highest on the *deep approach* with the part-time students, with the greatest exposure to the workplace, scoring lowest. The full-time students, with SWE, occupy an intermediate position. However it is not as clear cut as that. The same pattern also emerges with the *strategic approach*. That is to say the more the student is exposed to the workplace the more likely is the approach to be *strategic* and the less likely is the approach to be *deep*. Thus a deep/strategic binary emerges rather than a deep/surface binary.

In all but one case the deep approach is scored higher than the surface approach - the exception being the part-time QS students. This group was the only group who scored the *surface approach* over the *deep approach*. Indeed they prioritised the *surface approach* over both the *deep* and *strategic approaches*. Moreover they were the group who were both least *deep* and least *strategic* in their approach. However they were not the group who scored highest on the *surface approach* – this was reserved to the interior design students.

The interior design students are of interest. They exhibit two, possibly related, characteristics. Firstly, they score highest on all three approaches and secondly, they differentiate the least between the approaches. This latter phenomenon is at odds with their status as the group with the greatest time spent on campus. Because of their proximity to the “campus” values embedded in the *deep approach*, they would be expected to score the *deep approach* significantly higher than the other two student groups - which they

do - and, also, relative to the other two approaches - which they do not. This either indicates an equal level of enthusiasm for all three approaches and/or an inability to discriminate between approaches. It may even indicate that the notion of approaches to studying, as reified in the inventory, is not recognisable to the interior design students. Yet this inability to discriminate, particularly between *deep* and *surface* approaches contrast with the ID teaching staff who are the most discriminating, of all groups, in terms of these two approaches.

Despite failing to fully reject the surface and strategic approaches, all staff groups unequivocally prioritise the deep approach over the other two approaches. All the staff groups comply with the prescriptions in the approaches literature and have an agreed hierarchy of:

deep > strategic > surface.

No such agreed hierarchy is evident from the student responses. The interior design students come closest by exhibiting this hierarchy but with very small differentials between the approaches. Generally, the differentials between approaches recorded by students are much less than those recorded by staff groups. Indeed four of the nine differentiated values, recorded by students are negative (red in Fig. 7.1) within a *deep >strategic >surface* hierarchy. Staff do not just agree to a common hierarchical ordering favoured within the literature, they also perceive a much greater differentiation, than students, between the approaches. Were it not for their failure to wholly reject the *surface approach*, the staff grouping responses would be fully compliant with expectations derived from the literature on approaches to studying. However each staff group scores the *surface approach* above the median value of 3.00 indicating a tolerance of this approach.

Figure 7.2 shows the same type of analysis for approaches to teaching, with the Intention component of the CCSF approach used as benchmark. Staff generally score the CCSF higher, and the ITTF lower, than do the student groups. In the case of ITTF this is true for both *intention* and *strategy* dimensions. In fact all staff groups score ITTF approach below the median value of 3.00 and this is the only position where below median value responses are to be found in either Figures 7.1 or 7.2. In contrast all student groups score ITTF above the median value. This would indicate rejection by staff of ITTF but some expectation of ITTF from staff by students. This

is particularly true of the intention dimension of ITTF but less true when these intentions are to be operationalised into strategies.

When differences, again circled, are considered the same pattern emerges as appeared in the approaches to studying. Staff, with a range of differences from 1.01 to 1.40, record higher differences than students whose range is from -0.62 to 0.40. As before, negative differential values are used to indicate where responses favour the “discredited” approach with no negative values recorded for staff groups. That is to say all staff groups prioritised CCSF over ITTF in both intention and strategy dimensions. Indeed, overall, staff responses again, when compared with student responses, tend to comply with expectations generated from the approaches literature.

The negative values recorded by students are all found attached to the intention dimension with none found in the strategy dimension. Students appear to expect an intention of information transmission over an intention for conceptual change whilst desirous of strategies commensurable with conceptual change. In other words the student groups appear to quite like the idea of information transmission but, at the operational level, don’t like the strategies associated with this approach.

Figures 7.1 and 7.2 represent a simple comparison of means using differences as a measure of dispersion. The same exercise could be undertaken using standard deviation as a measure of dispersion. However there are accepted statistical tests which proceed from this basis, in particular the *t*- test and Analysis of Variance (ANOVA). These allow a more rigorous statistical analysis of the data.

7.3.1 Comparison of Means

Results from Analysis of Variance (ANOVA).

A one way Analysis of Variance was carried out using Tukey’s Honesty Significance Difference Test (HSD); results were obtained at the 5% level of significance. One Way ANOVA compares means and standard errors over multiple groups and is, essentially, a hypothesis test where the null hypothesis is that all groups share the same mean and standard error. Tukey’s HSD is a multiple comparison method to be applied after the rejection of the null hypothesis (or in SPSS.9 as an option during) and

compares the relationship between the means, identifying which of these relationships are different at a specified level (5%) of significance.

The results were limited to the staff groups and the final year student groups and were clustered under the main headings of the questions. Table 7.1 shows the results clustered for the *approaches to studying* whilst Table 7.2 shows the results clustered for *approaches to teaching*. Results significant at the 5% level of confidence are presented in each table. Both tables are arranged such that the group exhibiting the higher mean in the comparisons are identified under the heading of Group 1 and the group with the lower mean in Group 2. Thus groups identified in Group 1 under the deep approach heading are exhibiting a wished for or positive orientation towards that particular approach.

The split is very much a staff/student split – with staff (particularly BSU Staff) being at odds with student groups in terms of their higher scores for a *deep approach* to studying and lower scores for an information transmission/ teacher focused approach to teaching. Thus BSU Staff would appear to prefer students to engage a deeper approach than students are currently disposed to deploy. Moreover BSU Staff are less likely to engage in information transmission than students would like. Interestingly there appears to be concord regarding the *surface approach* with no significant differences between any of the groups. With five of the six groups scoring this approach to studying the lowest in Figure 7.1 this is not surprising. When the results from questions relating to a *strategic approach* are examined the results revert to the predominant staff/student split with students more inclined towards a strategic approach than staff would like.

Not all teaching staff groups are in contact with all student learning groups. When that is taken into account it emerges that there is a great deal of consensus between ID staff and ID students. On only one question (of 14) relating to a strategic approach to learning was a significant difference revealed between the ID students and the ID staff. More differences, which were significant, were found between BSU staff and the student groups which they came in most direct contact with.

:: Table 7.1 :: ANOVA :: APPROACHES TO STUDYING (From Entwistle’s ASI) ::

(* = Staff/ student or student/ student groupings which would not normally meet in formal class settings)

DEEP APPROACH					
QUESTION	GROUP 1	With	GROUP 2	MEAN DIFFERENCE	S.E.
Q1	ID4 FT(studs)*		QS4 FT (studs)*	0.89	0.28
Q4	BSU STAFF		QS4 FT (studs)	1.33	0.33
			QS5 PT (studs)	1.55	0.35
			ID4 FT (studs)	1.39	0.34
Q7	BSU STAFF		CM4 FT (studs)	1.15	0.30
			QS4 FT (studs)	1.04	0.31
			QS PT (studs)	1.17	0.33
Q10	BSU STAFF		QS4 FT (studs)	0.91	0.30
			QS5 PT (studs)	1.37	0.32
SURFACE APPROACH					
Q2	No significant differences between the groups				
Q5	No significant differences between the groups				
Q8	No significant differences between the groups				
Q11	No significant differences between the groups				
Q13	No significant differences between the groups				
Q14	No significant differences between the groups				
STRATEGIC APPROACH					
Q 3	CM4 FT (studs)*	With	ID STAFF*	1.71	0.48
	QS4 FT (studs)*		ID STAFF*	1.95	0.49
	QS5 PT (studs)*		ID STAFF*	1.88	0.50
	ID 4 FT (studs)		ID STAFF	2.33	0.49
	ID 4 FT (studs)		BSU STAFF PT STAFF	1.06 1.83	0.33 0.54
Q6	CM4 FT (studs)	With	BSU STAFF	1.08	0.30
	CM4 FT (studs)*		ID STAFF*	1.65	0.48
	QS 4 FT (studs)*		ID STAFF*	1.50	0.48
Q9	PT STAFF	With	QS 5 PT	1.81	0.60
Q12	No significant differences between the groups				

:: Table 7.2 :: ANOVA :: APPROACHES TO TEACHING :: (From

Prosser and Trigwell's ATI)

(* = Staff/ student or student/ student groupings which would not normally meet in formal class settings)

CONCEPTUAL CHANGE / STUDENT FOCUS (INTENTION)					
Q23	No significant differences between the groups				
Q26	BSU STAFF	With	CM4 FT (studs)	0.92	0.27
Q33	No significant differences between the groups				
Q34	No significant differences between the groups				
CONCEPTUAL CHANGE / STUDENT FOCUS (STRATEGY)					
Q21	No significant differences between the groups				
Q24	No significant differences between the groups				
Q27	No significant differences between the groups				
Q32	No significant differences between the groups				
INFORMATION TRANSMISSION/ TEACHER FOCUS (INTENTION)					
Q20	QS 4 FT (studs)* ID 4 FT (studs)	With	BSU STAFF BSU STAFF ID STAFF*	1.07 1.33 1.70	0.32 0.33 0.50
Q22	CM4 FT (studs) QS4 FT (studs) QS5 PT (studs) ID4 FT (studs)	With	BSU STAFF	1.75 1.52 1.52 1.89	0.29 0.29 0.31 0.30
Q29	CM4 FT (studs) QS4 FT (studs) QS5 PT (studs) ID4 FT (studs) CM4 FT (studs)* QS4 FT (studs)* QS5 PT (studs)* ID4 FT (studs) QS 4 FT (studs) ID 4 FT (studs)*	With	BSU STAFF ID STAFF* PT STAFF*	1.10 1.53 1.20 1.50 1.91 2.34 2.01 2.31 1.89 1.86	0.35 0.36 0.38 0.37 0.55 0.56 0.57 0.56 0.61 0.62
Q31	CM4 FT (studs) QS4 FT (studs) QS5 PT (studs) ID4 FT (studs)	With	BSU STAFF	1.33 1.50 1.33 1.61	0.39 0.40 0.43 0.42
INFORMATION TRANSMISSION/ TEACHER FOCUS (STRATEGY)					
Q19	No significant differences between the groups				
Q25	CM4 FT (studs)* ID 4 FT (studs)	With	BSU STAFF BSU STAFF ID STAFF*	1.13 1.50 1.63	0.30 0.32 0.49
Q28	QS4 FT (studs) ID 4 FT (studs)	With	BSU STAFF BSU STAFF	0.99 1.06	0.29 0.30
Q 30	CM4 FT (studs) ID 4 FT (studs) CM4 FT (studs) ID 4 FT (studs)	With	BSU STAFF BSU STAFF PT STAFF PT STAFF	1.64 1.56 2.08 2.00	0.35 0.37 0.61 0.62

When the results from those questions drawn from Prosser and Trigwell's attitude to teaching inventory are examined (Table 7.2) the first, and obvious, point is the degree of agreement about conceptual change/student focus (CCSF) in both its intention and strategy dimensions. The differences indicated in Figures 7.1 and 7.2 are shown not to be statistically significant, at the 0.05 level, except for one comparison (Q.26).

The major area where significant differences are to be found is with regard to the information transmission/teacher focus (ITTF) approach to teaching. As in the approaches to studying responses the split is a staff/student one - but in this case a qualified split. All four questions which relate to the *intention* dimension of ITTF approach and three of the four questions which relate to the strategy dimension generate significant differences between staff and student groups. No statistically significant differences emerge between student groups or between staff groups.

An interesting qualification to the staff/student split, regarding the information transmission approach to teaching, relates to the part-time students and staff. Whilst full-time students exhibit significant differences over several (7) questions with full-time, BSU staff and ID students do likewise with ID staff; on three occasions the part-time students and the part-time staff never generate a significantly different response to each of the 16 questions from the Attitude to Teaching inventory. In other words the part-time students and staff appear to agree, to a much greater extent than the other groups, about approaches to teaching. However the small size of the part-time staff group prevents too much being read into this.

7.3.2 Comparison of Means - *t*-test - before and after SWE.

As mentioned in Chapter 1, time spent away from the campus, where a *deep approach* is presumed venerated, should prejudice such an approach. This should be true of time spent by students on Supervised Work Experience (SWE) and should be verifiable with a "before and after" study. To test this prediction a group of students completed the inventory before embarking on SWE and repeat the task on return to the university.

However, in terms of "before and after" studies the number of second/third year student respondents was low as it was intended that their inventory data be mainly used to cross reference with responses from the group interviews. None-the-less a two tailed, independent sample "*t*"-test was carried out.

Only one question, Q25 which related to an information transfer teaching approach resulted in a statistically significant (at 0.05 level) shift.

When the unit of analysis is the individual question, very little statistically significant difference can be detected. However, when the questions are clustered into the groups prescribed by both Entwistle and Prosser and Trigwell, a different pattern emerges (Table 7.3). Generally, scores for *deep* and *strategic* approaches improve across the board whilst scores for *surface* approaches decline, again across the board. Similarly scores for an expectation by students of a conceptual change (CCSF) approach from staff improve. At the same time, the scores for information transfer (ITTF) also decline in value. Student motivation, largely, remains unaffected such that a motivational impact of SWE can be discounted. In other words there is a tentative move away from a surface approach towards a deep and/or strategic approach and a move away from an information transmission expectation of teachers towards a conceptual change approach. Despite this positive result, generally, the “After SWE” responses for surface approach and information transfer expectancy tend to remain above the median value of 3.0. Perhaps these students perceive these issues in terms of preferences rather than the dualities mentioned in the literature.

These results are at odds with the prediction developed from the approaches literature. However, again, the small sample size prevents overly robust conclusions being reached. The literature on approaches to learning and teaching perceives studying as the only valid way to learn within a campus oriented environment. This approaches literature has not developed a body of literature dealing with the effect of supervised work experience. It could, however, be accommodated within the conception of the *architecture of variation* referred to within the constitutionalist perspective (Marton and Booth, 1997, p. 185 et seq.).

Alternatively reference could be made to Entwistle’s (1997) role for the teacher as a provider of a *vicarious experience of relevance* (p. 20). This is regarded as important in stimulating deep approaches amongst students. If so actual concrete experiences during SWE may be regarded as of even greater relevance by students and may be still more effective in inducing a *deep approach* to studying.

:: Table 7.3 :: 2nd / 3rd YEAR STUDENTS BEFORE AND AFTER SUPERVISED WORK EXPERIENCE

STUDENT APPROACH TO STUDYING (From Entwistle's ASI)		
Median = 3.00		
DEEP (Ideally above median of 3.00) Q1 from 4.00 to 4.10 (+0.10) Q4 from 3.36 to 3.20 (-0.16) Q7 from 3.81 to 4.10 (+0.29) Q10 from 3.10 to 3.80 (+0.70) Generally a positive (good*) shift	STRATEGIC Q3 from 3.72 to 4.20 (+0.48) Q6 from 4.00 to 4.10 (+0.10) Q9 from 3.36 to 4.00 (+0.64) Q12 from 4.00 to 4.20 (+0.20) Generally a positive shift	SURFACE (Ideally below median of 3.00) Q2 from 3.73 to 3.90 (-0.17) Q5 from 3.72 to 4.00 (+0.28) Q8 from 4.18 to 4.00 (-0.18) Q11 from 3.36 to 2.80 (-0.56) Q13 from 3.10 to 2.80 (-0.30) Q14 from 3.73 to 3.30 (-0.42) Generally a negative (good*) shift
EXPECTED LECTURERS' APPROACH TO TEACHING (From Prosser and Trigwell's ATI)		
Median = 3.00		
CONCEPTUAL CHANGE/ STUDENT FOCUS (Ideally above median of 3.00) Intention Q23 from 4.00 to 3.80 (-0.20) Q26 from 3.55 to 3.70 (+0.15) Q33 from 3.36 to 3.80 (+0.44) Q34 from 3.27 to 3.40 (+0.13) Strategy Q21 from 4.64 to 4.60 (-0.04) Q24 from 3.64 to 3.80 (+0.16) Q27 from 2.91 to 3.30 (+0.39) Q32 from 3.63 to 3.70 (+0.07) Generally a positive (good*) shift.		INFORMATION TRANSFER/ TEACHER FOCUS (Ideally below median of 3.00) Intention Q20 from 4.36 to 3.90 (-0.46) Q22 from 4.00 to 4.00 (0.00) Q29 from 4.00 to 3.90 (-0.10) Q31 from 3.82 to 3.45 (-0.37) Strategy Q19 from 2.80 to 2.79 (-0.01) Q25 from 3.45 to 2.70 (-0.75) Q28 from 4.36 to 4.20 (-0.16) Q30 from 2.18 to 2.00 (-0.18) Generally a negative (good*) shift.

- The term “good” is used in the context of the initial (Entwistle etc.) presumptions of the inventories.

7.4 Measures of Association

Correlations using Kendall's tau *b* test.

A correlation test was carried out between all of the 34 questions. Because the Data are ordinal Kendall's tau-*b* statistic was used to test for association. This was done initially with all the 108 responses from Staff and Final Year Student Groups. Most correlations were low but, probably due to the relatively large sample size, several were significant, some at the 1% confidence level. The pattern changes when the results are clustered. The

TABLE 7.4

APPROACHES TO TEACHING
ALL (STUDENTS & STAFF)

APPROACHES TO LEARNING

		INFORMATION TRANSMISSION/TEACHER FOCUS							
		INTENTION				STRATEGY			
		20	22	29	31	19	25	28	30
DEEP	1	0.001	0.040	-0.096	-0.043	0.056	-0.023	-0.081	-0.056
	4	-0.072	<u>-0.227</u>	<u>-0.285</u>	<u>-0.229</u>	0.014	<u>-0.165</u>	<u>-0.179</u>	<u>-0.166</u>
	7	-0.137	-0.270	-0.115	-0.061	-0.027	-0.062	<u>-0.166</u>	<u>-0.253</u>
	10	0.007	-0.106	-0.103	-0.118	-0.050	-0.009	-0.068	-0.111

BLOCK 1.

CONCEPTIONAL CHANGE/STUDENT FOCUS							
INTENTION				STRATEGY			
23	26	33	34	21	24	27	32
<u>0.304</u>	<u>0.172</u>	0.105	0.043	0.164	0.112	0.104	0.125
<u>0.198</u>	<u>0.176</u>	<u>0.220</u>	0.110	0.084	<u>0.165</u>	<u>0.209</u>	0.091
<u>0.260</u>	<u>0.328</u>	<u>0.233</u>	0.078	0.108	<u>0.154</u>	<u>0.176</u>	<u>0.226</u>
<u>0.227</u>	<u>0.272</u>	<u>0.158</u>	0.086	0.101	<u>0.294</u>	0.022	<u>0.210</u>

BLOCK 2.

STRATEGIC	3	<u>0.169</u>	<u>0.241</u>	<u>0.198</u>	0.081	0.043	0.146	0.183	<u>0.211</u>
	6	0.126	<u>0.231</u>	<u>0.176</u>	0.090	0.131	<u>0.170</u>	0.105	0.182
	9	0.002	0.054	-0.087	-0.110	-0.028	0.018	-0.044	-0.022
	12	-0.061	-0.080	-0.170	-0.012	<u>-0.173</u>	<u>-0.150</u>	-0.032	-0.140

BLOCK 3.

0.052	-0.042	-0.065	0.038	0.127	0.104	-0.021	0.058
0.056	0.054	0.025	-0.018	0.016	0.041	-0.023	0.023
<u>0.167</u>	0.125	<u>0.190</u>	0.104	0.154	0.019	0.043	0.149
0.032	0.041	<u>0.240</u>	-0.048	<u>0.184</u>	-0.065	0.005	0.006

BLOCK 4.

SURFACE	2	<u>0.148</u>	<u>0.164</u>	0.098	0.075	<u>0.179</u>	0.071	<u>0.166</u>	<u>0.183</u>
	5	<u>0.258</u>	<u>0.309</u>	<u>0.257</u>	<u>0.270</u>	<u>0.211</u>	<u>0.238</u>	<u>0.220</u>	0.250
	8	<u>0.157</u>	<u>0.315</u>	0.131	0.096	0.144	0.214	0.091	0.005
	11	<u>0.189</u>	<u>0.235</u>	<u>0.238</u>	<u>0.198</u>	<u>0.243</u>	<u>0.225</u>	0.100	<u>0.216</u>
	13	0.144	0.060	0.084	0.058	0.029	0.085	0.084	<u>0.202</u>
	14	<u>0.296</u>	<u>0.184</u>	<u>0.184</u>	0.092	<u>0.252</u>	0.116	0.101	<u>0.224</u>

BLOCK 5.

0.056	-0.060	0.014	0.075	0.135	<u>0.187</u>	0.104	0.058
-0.075	-0.065	-0.032	0.051	0.000	0.020	-0.019	0.064
0.148	0.113	0.127	0.137	0.050	0.067	<u>0.160</u>	<u>0.193</u>
0.018	-0.070	0.008	0.046	0.090	0.114	-0.053	0.148
-0.084	-0.084	-0.049	0.080	0.001	-0.110	0.046	<u>-0.189</u>
-0.046	-0.050	-0.115	-0.013	0.118	0.046	-0.015	-0.057

BLOCK 6.

results were clustered on a grid with two main axes *Approaches to Learning* (actual by students and expected by staff) and *Approaches to Teaching* (actual by staff and expected by students). For presentation purposes negative correlations are coloured red with positive remaining black. Correlations significant at 5% are single underlined and at 1% double underlined. The results are presented in Table 7.4. Some results comply with expectations generated from the approaches literature/ constitutionalist perspective:

- Block 1 showing a cluster of predominantly negative correlations between a deep approach to learning and an information transmission approach to teaching
- Block 2 showing a cluster of positive correlation between a deep approach to learning and a conceptual change approach to teaching
- Block 5 showing a cluster of positive correlations between a surface approach to learning and an information transmission approach to teaching.

Results on the strategic approach to studying axis (Blocks 3 and 4) are more ambivalent especially in respect of the association between strategic approach to learning and an information transmission approach to teaching - although the results significant at 1% were indicative of a positive association rather than negative. The association between strategic approach to studying and conceptual change approach to teaching appears more robust, and positive, than that with information transmission.

In terms of surface approach/ conceptual change the results again are ambivalent with, perhaps a tendency to a positive association. In other words, the strategic and surface approaches to studying do not appear, automatically, to rule out a conceptual change approach to teaching.

Table 4 can be simplified and summarised with the quantitative data re-coded into text. This is shown in Table 5.

When this table is analysed from the perspective of the two approaches to teaching columns then a more promising picture emerges which is, also, compliant with the *approaches* literature.

:: Table 7.5 :: Summary Version of Table 7.4 ::

	INFORMATION TRANSMISSION	CONCEPTUAL CHANGE
DEEP APPROACH	Strong negative	Strong positive
STRATEGIC APPROACH	Ambivalent/positive	Weak positive
SURFACE APPROACH	Strong positive	Ambivalent/positive

The movements, in the information transmission column, are in the direction predicted in the approaches literature, that is, from a strong negative association with a deep approach through ambivalent/ positive for the strategic approach to strong positive for the surface approach. Similarly, in the conceptual change column, although all the associations are essentially positive, they decline in their degree of “positiveness” as one moves from deep to surface learning approaches. Thus, within the department, the association between approaches to learning and approaches to teaching appear to support the hypothesised link derived from the constitutionalist perspective.

7.5 Comment

The analysis presented in this chapter has been conducted internalised within the *approaches* literature with references to the associated constitutionalist perspective of Marton and Booth (op. cit.). A *recognisable reality* (Entwistle, 1997a) can be detected in terms of compliance with the expectations from the *approaches* literature. One example is the way in which the likelihood of deep approach to studying diminishes, or is threatened, the less contact a student group has with the university.

Indeed, some findings would be regarded as laudable within the context of the *approaches* literature. For example, all staff groups expected students to least use a surface approach and all final year student groups, with the exception of the Part-time students, scored the surface approach as their least preferred approach. Similarly, there exists general agreement in terms of teaching as conceptual change. All teacher groups scored this as their preferred option over information transmission both in intention and strategy terms. Students preferred an information transmission approach to teaching as an intention but they still scored the conceptual change approach highly and were less enthusiastic about an information transmission approach at the operational or strategic level. That is to say, all student groups prefer CCSF

at the operational strategy level over ITTF - if not at the more philosophical intention level.

The correlations between approaches to studying and approaches to teaching shown in Table 7.4 are significant and, again, are predictable within the *approaches* literature. These, however, tend to become less convincing when disaggregated into the specific identified groups.

However, anomalies also emerge. The extent to which SWE appears to have deepened approaches to studying and resulted in students' preferences for a conceptual change/ student focus whilst reducing their enthusiasm for information transmission is not allowed for within the approaches literature. It can be explained with reference to the notion of *relevance structures* (Marton and Booth op. cit.).

Similarly all groups scoring all three approaches to studying above the median value (3) is anomalous indicating that these approaches coexist within the student repertoire, perhaps to be used contingently.

Other anomalies emerge from the correlation studies which admittedly indicate associative, rather than causal, links. Some of the student groups associations appear to be at odds with their preferred approach to studying/ learning. For example the Interior Design students identify a positive association between deep approaches to learning and conceptual change approaches to teaching yet, like the other full time student groups, preferred an information transmission approach to teaching. The part-time students recognised a positive association between a surface approach to learning and an information transmission approach to teaching, yet their most preferred approach to studying is the surface approach. At the same time they, of all the student groups, scored highest in terms of the Intention dimension of the CCSF and lowest on the Intention dimension of the ITTF. They also, of all the student groups, generated the largest positive differential between CCSF strategy and ITTF strategy.

The staff/ student splits revealed by the ANOVA results are of concern, albeit probably explainable within the approaches literature in terms of teaching staff, simply having a better conceptual understanding of things – including learning. The things under study, by students, in the Building and Surveying Department, however do not include learning - it is technology, management, environmental science etc. Such a staff/ student split might

have a more convincing explanation within a more overarching master/apprentice metaphor found in socio-cultural theories. An alternative view of this staff/ student split resonates with the suggestion in Chapter 2 that the approaches literature has dominated thinking so much in higher education in the UK to an extent that it has become a contextual or an environmental factor. Thus the teaching staff have for some years operated in this environment, indeed they may have attended some short courses based on these ideas as Webb (1997a,b) suggests. This, in turn, may have influenced their responses either, subconsciously or as an example of social desirability bias - where respondents answer in what they perceive as the most socially desirable direction.

As long as this analysis remains internalised to the approaches literature and the associated constitutionalist perspective of Marton and Booth (op. cit.) it will fail to address other significant issues. In particular, the issue as to the extent to which the notion of deep approaches to learning, if not studying, can be identified outwith the context of one particular theory of learning and outwith the campus location.

What is required is to examine the extent to which such approaches can be detected in other, alternative, contexts and locations beyond the university campus and with reference to the other theories of learning discussed in Chapter 4. As mentioned in Chapter 4, learning may not even be in explicit focus in these alternative contexts. This is particularly germane to the part-time student group with their lowest score of all groups for *the deep approach* (Fig. 7.1) and, of course, their position as the student group with the greatest involvement in the workplace. This will be addressed in the next chapter with comparative reference to the other identified groups.

:: CHAPTER 8 ::

:: Qualitative Data Analysis ::

8.1 Introduction.

This chapter analyses the qualitative data within the framework developed in Chapter 2. This analytical framework makes use of Sfard's (1998) acquisition and participation metaphors together with Prawat's (1996) modern and post-modern split. The framework has been presented in Table 2.3 and offers, within its central spine, headings which can be used to cluster and make sense of the data collected during the interview stage of the study. However in Sfard's account it was views about the nature of knowledge and knowing that mostly dictated whether a theory was part of an acquisition or a participation metaphor. The other views were largely consequent on this initial analysis. The same can also be said of Prawat's account. This study proceeds from this position, in that the nature of knowledge and knowing are investigated first. It goes without saying that the constitutionalist perspective will be the acquisition metaphor/modern theory which will be referred to whilst interrogating the data.

8.2. Views on knowledge.

Different dimensions to knowledge have been referred to in earlier chapters. Sfard uses a distinction, in her metaphors, between knowledge as object or commodity and knowledge as an aspect of practice requiring discourse and activity. This section will examine this aspect together with associated notions regarding the type of knowledge used in practice. These have been referred to in earlier chapters in terms of whether knowledge is explicit in theories or tacit, the extent to which knowledge may be regarded authentic, and the closely associated notion, the extent to which knowledge may be considered as contested.

8.2.1 Nature of knowledge.

Amongst staff the distinction between university/ academic knowledge and knowledge in practice was generally seen as relational but with variations perceived in the nature of that relationship.

Of all the groups the full-time QS teaching staff had the most one dimensional view of knowledge. Knowledge, for them, is regarded as a

personal possession to be acquired and accumulated, which once acquired, allows action to proceed. Akin, a senior lecturer explains:

Akin [.] *you are trying to enlarge your thinking system -- your thinking ability -- and that's part of what you mean by accumulation - that's what I'd probably describe as the accumulation of knowledge -- in which case it is expanding your capability and ability to undertake a particular event or to be able to undertake a particular -- activity -- that's what I mean -- it's about articulation, it's about problem solving -- in which case we have an accumulation of knowledge from diverse experience.*

Knowledge is accumulated from experience and allows subsequent action. However diversity in experience is mentioned. Knowledge is to be accumulated from diverse experiences, but it is not diverse knowledges from diverse experiences - it is a unitary knowledge. Tim agrees about the theory/practice link. Tim, without dissent from the others, argues that practice is distinct from, dependent on and is driven by knowledge.

Tim *Well! you can't practice without knowledge.*

For Akin knowledge is a personal possession and is prioritised over, as a priori to, practice. In turn practice, or as Akin terms it *practical knowledge*, is something to be analysed and the analysis abstracted into knowledge:

Akin *I think knowledge is about developing oneself - moving from one level to another [.] Somebody can learn practical knowledge without knowing the basis, the theory behind it -- Why are we doing all this? Which is what you see in most situations. Something routine, something we do all the time we just don't want to know why we do it -- I do it! it works! But why?*

Knowledge is about understanding how things work. Thereafter we may engage in the work ourselves, but that is not a requirement. We do things routinely without reflection. What is implied is a need for reflection on practice to abstract knowledge about practice. For Akin, practical knowledge must have a theoretical base supporting it otherwise it reduces

to being a *routine* but this theoretical base has to be abstracted from practice. This routine non-reflective action, he holds, is what happens in *most situations*. He appears to accept the phenomenological premise, that *in most situations* we act without reflecting on our actions and that we need to reflect in order to abstract knowledge from our actions, routines or practices. For Akin there is an imperative to reflectively analyse practice and construct theory from such practice. Practice is something to be understood in abstract terms and is something which can be understood without necessarily engaging in it. A role for experience is admitted. However, the best way forward is for experiential knowledge, of experts, to be captured into text and made explicit and available as vicarious experience to students. Knowledge is abstracted from practice to become a representation of practice - and what is to be taught is a representation of practice not practice itself. Moreover determining the certainty of practice before abstraction into theory does not appear to be an issue. None-the-less Akin explains the mechanisms for this process using an example of a high-rise building.

Akin *[..] somebody's learning about --- acquiring knowledge -- like the high-rise building -- do you have to build that high-rise building before you gain knowledge in that particular area -- people with experience of that particular subject area telling you precisely what they have experienced -- how they have gone about it and then look at the material produced by others over the years -- and then, through that, you gain knowledge of that particular subject area without necessarily being involved in the physical act of constructing a high-rise building [..]*

Int. *But do you not think that a person involved in putting up a high-rise building would be more knowledgeable about ---*

Akin *Very much so -- that's why I mentioned about the transfer of that knowledge - with somebody with experience of that transferring it to*

somebody without experience of that. And also you can realise that - somebody with experience can transfer that into books where an individual without knowledge can then read and say "this is what I've experienced"

For Akin knowledge is gained by vicariously experiencing, by reading such texts, with reading as a strategy for taking part in ways of conceptualising the world which are frequently abstract. Valid experiences are recorded precisely, perhaps as *knowledge objects*, in books, and other media, to be studied by the student. Issues of validity of the experiences selected, the method of abstraction, the effectiveness of the media and effectiveness of student studying are implicated if this goal is accepted. Valid knowledge is abstracted from valid experiences into texts, where it remains abstract. The texts are studied by students but since abstracted knowledge is all that is available in the text the result is abstract knowledge being acquired by the student. References to precision and the uninvolved nature of knowledge indicate a modern agenda. Knowledge does not require involvement, it can be abstracted, manipulated into representations of experience by the teacher or into books, both of which can act as vicarious experiences for the student. In this way the student becomes knowledgeable.

Akin also hints at knowledge as a being a historic construction when he talks about *material produced by others over the years* but again regards this in static terms as opposed to knowledge as the outcome of years of discussion, dispute and reflection argued by Webb (1997a/b) in his critique of the approaches literature.

Part-time teaching staff have a more two dimensional view of knowledge. They see university knowledge as incomplete which has to be completed in practice with one experience layered on top of another. In contrast to the full-time staff they place greater emphasis on tacit knowledge which is coupled to a "looseness" found in practice. Ian, a partner in a local firm, speaking about his role as a part-time lecturer, equates knowledge as experience layered onto theory. The compendium can be *brought* to the students:

Ian *[..] and simply to bring that experience to the students founded on a sound theoretical basis of*

knowledge which any other lecturer could have - but enhanced by the anecdotage which we can -- spread through the lectures [...] -- I think students appreciate that an awful lot more than someone who has a better command of the theory but has less practical experience.

Thus he disagrees with Akin about the central position of theory. Experience makes the theory vital and can compensate for [his possible] deficiencies in knowledge of the theories. If academic knowledge can be packaged into concepts and theories or *facts*, then experience can be packaged into anecdotes and storeys and brought to the students. In that sense Ian is working within an, knowledge as *bringable* object, acquisition metaphor.

Kate, another part time member of staff, interviewed with Ian, points out:

Kate *[...] but a whole lot of facts does not necessarily make a good QS [...] -- but you need all these facts to go out and have an understanding -- a competence -- in what you're supposed to be making your living in.*

In other words a conception of knowledge as facts is defective. Kate however hints at a perceived gap between university knowledge and practice. She develops this:

Kate *But I, sometimes, am left thinking that the students don't really think its got a practical application.*

And referring to shortages of summer jobs for students she returns to a notion that university knowledge is not enough that it has to be overlain with experience:

Kate *[...] so unfortunately they're not able to take what they have learned within the university and go out and top-and-tail it by experience.*

Thus knowledge as understanding of concepts is necessary but incomplete. Such university knowledge requires to be *topped and tailed* before the person is knowledgeable. Like Ian, knowledge is a fusion of experience and concept; one is impoverished if the other is missing. Theory, or university

knowledge, is foundational allowing an understanding of experience. This is reminiscent of Marton and Booth (op. cit.) who talk about learning to experience but rely on different mechanisms. Ian and Kate talk of university knowledge resulting in making sense of experience whereas Marton and Booth talk of learning to experience in epoche terms.

For Kate knowledge as a whole lot of facts in the mind is an inadequate view of knowledge because it does not *make* anything or, more correctly, anyone. For Kate knowledge constitutes the person - an identity issue discussed later.

Janey, a third, part-time member of staff, holds a *knowledge as concept* with a purpose view of knowledge. Knowledge is not simply an object lodged for future retrieval from memory. A deeper understanding of the concept is required because, implicitly, any concept is going to be put to use in *doing*. Agreeing with her full-time colleagues the relationship is: first understand the concept then deploy the concept in action. However the concept is not static and, although the concept is a historical construct as *already in existence to people* and consensually accepted as a truth, it is possible that other interpretations can be construed. Janey moves from a knowledge as concept which is a derived truth to knowledge as something which allows different perspectives, to knowledge as the ability to form one's own perspective:

Janey *I hope I bring knowledge that is already in existence to people [...] what people have already derived and do accept as theory and as the truth really. But give them also the ability to reason with it and decide - and prove it or disprove it and give them the ability to look beyond that and question it and investigate it and decide if there can be another way of looking at something or if there can be something further achieved from what I'm bringing to it [...].*

Janey differs from Akin by hinting at knowledge as truths which are consensual but are also contestable. Knowledge as consensus is touched upon later, discussing a student's work during SWE in her office:

J. [...] *their views might be slightly different from what we would expect to be the general consensus of the people who've been in the industry with a lot of experience --*

Knowledge in practice is defined by experienced practitioners and is arrived at as a consensus between such practitioners. The presumption is that the student is to be brought to an acceptance of this consensus. At the same time the door is open for anybody, including the student, to challenge that consensus. Knowledge is also an ability to reason and prove or disprove, accept or reject a theory or truth. In part Janey remains faithful to the acquisition metaphor of knowledge as concept which has been accepted with the addition of reasoning devices. These devices allow the learner to challenge the accepted position, thus she implicates the notion that knowledge is something that can be both consensual and contested. Within this ethos, any contest, directed at reaching a new consensus, must be dialogic. This suggests a view of knowledge as a product of dialogic processes in which the student can participate such that, in Sfard's terms, knowledge becomes an *aspect of discourse*. She hints at the student/apprentice as potential challengers of an orthodoxy without actually mandating them to this role. None-the-less, students take part in discourses surrounding practice. Whilst Janey does not directly implicate taking a student focus as defined by Prosser and Trigwell, discourse does implicate the mechanisms of conversation and discourse articulated in the ATI questions leading to student focus. Janey's talk fluctuates between knowledge as concept acquisition and some aspects of participation in a way resonant with Sfard thesis that we use both metaphors in our daily, lived, discourse.

8.2.2 Types of Knowledge: Tacit Knowledge used in Practice.

Whilst the full time staff are silent on the tacit nature of knowledge other groups, particularly the part-time staff and even the second year full-time group do refer to it. The part-time staff connect tacit knowledge with a looseness found in practice. Ian refers to this *informality* by comparing university students sitting *in serried ranks* with:

Ian *I think it's much more informal out there. In here they're sat in serried ranks Whereas in*

practice they're in a one-to-one situation with a partner who will, maybe driving a car, say to them "don't ever say that to a clerk-of-works" or "don't treat a bricklayer like that". [...] and there's lots of little things happening in practice which are simply never covered in a university course [...]. But it is the informality of it and it's the direct personal connections [...] (my emphasis)

Ian talks of a student, in a car with a partner, being given advice on how to talk and deal with other people on a building site. Ian could have quoted the partner as saying "JCT80 defines the role, responsibilities and duties of a clerk of works and the following case law defines how much the architect can delegate to him --". Instead the partner gives advice on how to relate to other people on a building site. In other words there are "rules" governing behaviour towards other people on the building site that the partner, by pointing out these rules is giving advice on how best the student/apprentice can better be accepted onto the building site and engage with other significant participants on the site. Moreover, whilst the role and responsibilities of a clerk of works can be found in codified documents the advice given by the partner to the student/apprentice is not – in other words the advice is tacit. It is one of Ian's *lots of little things*. It is tacit but not trivial - after-all it is a partner, not a newly qualified junior surveyor, at the centre of Ian's storey.

Janey, like Ian, points out that practice is much looser or flexible than theory or prescriptions derived from theory:

Janey *It's a bit looser -- it's like you have a set of rules and then people start to --sort of - stretch the rules a wee bit in practice - so the procedure's there -- the framework's there.-*

Janey highlights that students during SWE see theory, which may appear rigid in the classroom, as being more flexible. In the case of contract:

Janey *Conditions of contract are all very procedural - "the Architect's Instruction must be issued within 7 days of a verbal instruction" etc. - but it doesn't happen in practice. [...]*

[..] they slightly bend it -- not sufficiently to make it not comply or to, in any way, contradict theory but sufficient for people to see that there is flexibility in the codes.

Int. And the students--

Janey *And the students take that on board -- they see there is flexibility there -- which they hadn't previously accepted.*

So knowledge looks like being an ability to use *procedures*, prescribed from theory, informally or tacitly rather than as adherence to rigid theory which, in turn was abstracted from correct use of procedures. Reverting to Eraut's (2000) terminology, experienced practitioners are able to use theoretical knowledge, even when reduced to prescriptions, in a tacit way. They are able to *stretch the rules* and, presumably know how far the rules can be stretched. Alternatively, as Ian would have it, the profession allows the rules to be stretched. The tightness or formality of university knowledge does not recognise any capability for rules to be stretched – students leave university under the impression a rule's a rule - to be adhered to. Akin would argue that this elasticity of rules can be captured and embedded into codified knowledge – it is just a matter of making the abstraction mechanisms sophisticated and precise enough.

This tacit aspect of vocational knowledge is recognised by the students even before they start their placement. The second year construction managers were asked:

Int. What do you think the placement period's going to be all about?

Kevin *A bit of experience - of the industry you're going into.*

Jane *No! It's going to be learning things you can't be taught.*

Tina. *Aye! Exactly -- learning things you can't be taught in the classroom.*

K. *It's learning everything -- even things you have been taught in a classroom -- like -- 'cos you're brought in here in day one - and you're shown drawings on*

*the board - and you may be able to draw them -- but
really you don't know what they are --*

The students recognise that what has been taught in the classroom is not enough, indeed, that there is knowledge beyond that which can be taught in the classroom and that this knowledge, perhaps as *lots of little things*, is only to be found in practice. Even things which have been taught and not understood in classroom will be made obvious in practice.

The full time students, who have completed SWE, take a similar view to Kate about the disjunction between university knowledge and knowledge used in practice. The latter is perceived as more complex and interwoven. When reflecting on their placement period the final year QS students describe it:

Derick *[..] when I went out on my placement period
I was like "Bloody Hell!!". Even the contractual
arrangements of the first project [..] you were
taught in your contract classes, you've got your
architect and you've got Joe Bloggs, the builder and
you've got your engineer [..] and you think "that's
the kind of level it's at". But it's actually -- once
you're on site and you see who's all involved on the
project, all the different clients - you know - and all
the different kind of contract it was a right eye-
opener -- all the different types of forms of
construction -- rather than, say, your JCT80 - all
your Management, your Design and Build [forms of
contract] - you learn - I bet I learnt more than I did -
- [..]*

Derick is explaining contract, relationships of key personnel on site which from the explicit academic account is simple, perhaps simplistic, whereas, in practice, things are much more complex or *involved* because people are *involved* in practice. Because people are more involved *I learnt more*. The greater involvement, and associated complexity, found in practice generates better learning. Moreover he implies that contract and forms of construction, separated into different modules in the university, are connected and this connection is evident on site. Practice is much less

atomistic and is much more an interweave between different domains. However both differentiation and integration can be spied in this interweave. Forms of contract can be differentiated from each other but are integrated with other aspects of the project e.g. the technology, as *forms of construction*, used.

8.2.3 Authentic knowledge

New dimensions are expected to be added to classroom knowledge. Kevin expects practice, during SWE, will teach *everything*. Moreover students about to undertake SWE expect practice to be a highly effective and efficient learning environment.

Jane *You're going to learn more at work on a building site for a week than you are in a year in a classroom -- definitely!*

John *You can sit in a class all year -- and you think you learn a lot --*

Tina *But you don't really.*

A *lot* needs to be learned but the classroom is not the best location for this learning even if the focus in the classroom is on learning. As Tina points out:

T *If you're doing a course like Retail Management you can go to, some extent, in creating an office environment or whatever [...] but in construction management that would be impossible within the university - you have to go out the university - spend your time in your industrial placement to know what you have to do.*

Knowledge used in practice cannot be replicated in the university as some sort of authentic practice as advocated by Roth (1999) because of the nature of building site activities. As John states:

John *But you can't practice what we're doing sitting in the classroom. You've got to go out there and do it.*

Yet site visits and courseworks, set around “live” sites, were valued as the second year part-time quantity surveyors point out:

Jane [...] *I found, even when we had to do that coursework on the site at Caledonian¹ -- and when we were out -- when I was sitting in the classroom --*
- I honestly do not have a clue about building technology -- when we went out on the site it made such a difference to me -- for me to even see what it looked like -- it made an immense difference to my understanding of it.

The visit to a live site and a coursework relating to it did have an impact on Jane and the others. It made technology all the more relevant - perhaps as a constitutionalist *relevance structure*. Jane, and the other students, appear to challenge Akin's view that abstraction of experiences into textbooks, which are then available to students is all that is required for understanding.

Similarly the informality of Ian's account of learning, if not knowledge, can be compared with Akin's emphasis on experience being codified into texts. Ian is not explicit in giving a reason why the *lots of little things* are not covered in the curriculum but he considers them important.

Ian develops this theme arguing that, although informal, such tacit knowledge recognises context and how to respond to context. In that sense it has a "meta" quality indicating when knowledge must be applied "correctly" and when some latitude is allowed.

Ian *I try to impress on my staff, if we're billing emulsion paint on a wall it's £1.80 a square meter and it doesn't really matter [...]. If your measuring "Pyran" [fire-resistant] glass which is £1000.00 a square meter you've got to get it precisely right -- and it's knowing when to get it precisely right and when you get it nearly right which is the difference. Universities will teach you that it's equally important - and it's not. -- and the profession teaches you that there are some things which are fundamentally important -[...] it's don't overpay contractors on valuation and get the things which are hugely*

¹ The live site was a new steel framed sports complex built on campus.

*expensive absolutely correct -- because if you get
that wrong there's a big problem. (my emphasis)*

In contrast, within the university the student is told to get everything right all the time. Ian, an experienced practitioner², knows otherwise. He knows when to get it right and when to get it nearly right, but the newly graduated QS does not know this difference. Tellingly, and as Janey has also suggested, it is *the profession* [which] *teaches you*, as a community, not the individual practitioner. In this narrative Ian is assuming the role of a mediator between what is accepted in the wider QS *profession* and his staff/continuing apprentices. According to Ian this does not represent inconsequential knowledge not worthy of the attention of the university. Rather it represents core, authentic, if tacit, QS expertise. He emphasises the need *to impress* [his] *staff* – he obviously thinks these *lots of little things* are important. Getting them wrong, has consequences – they can result in *a big problem*.

Both interior design staff and students view knowledge in design, imagination and creativity terms. However there is a need for a conceptual basis in technical subjects or other disciplines such as quantity surveying. Kirsty, a student comments:

Kirsty *[..] what we're trying to do is create
something - so we need more design and creativity
with interior design than you would as a QS -- - We
all need the technical base.*

Janine *We supply the imagination.*

This implicates a tension between creativity and the idea of the concept, that true imagination and creativity cannot emerge from theoretical concepts. By emphasising the imaginative and creative dimensions of design the students should reject the rigidity of the concept - unless there is capability for the concept to be put to tacit, perhaps, imaginative, use. However the concept in the form of a technical base is still needed.

A disjunction between university knowledge and knowledge needed in practice is highlighted by Joanne, moreover this occurs even when design tutors have a history of having worked in practice:

² Ian is a senior partner in one of the largest private QS firms in Glasgow.

Jo. *[..] and what you need to know and what you'll probably use within industry -- I don't think we get enough of that. I mean every lecturer we've got has worked in industry - so they should know - well, obviously, -- their role. [..] and I think it would be helpful if you could be a bit more helpful in explaining how we would use whatever we're learning.*

What Joanne is asking for would be termed a *relevance structure* by Marton and Booth (op. cit.) or for teachers able to mediate between the classroom and practice as in symbolic interactionism. Of course, Marton and Booth (op. cit.) have asserted that relevance structures are similar to authentic practice found in classroom focused socio-cultural theories.

The interior design staff accept the notion of the concept or theory:

Int. *Or is interior design atheoretical?*

Sandra *Oh No!! That's rubbish - 'course it is - but I don't see this great division between theory and practical -- I don't see -- I think design is a much more holistic subject - you can obviously bring bits of theory [..]*

Harry *I think it would be artificial to try and create a distinction between the two types of knowledge [...]*

Sandra first argues for a theoretical foundation but then moves to a *holistic* view where *bits* of theory can be used. Sandra elaborates the types of conceptual knowledge needed such as:

Sandra *There's knowledge about the past -- about how other architects and designers have solved the problem [...] because design is about solving problems in a wholly practical, coherent but creative way.*

At the same time Sandra implicates that present designers are beneficiaries of a tradition of design established within a historically constituted community of designers which extends beyond both the studio and the present. Consequently the interior design students are part of a wider design

community that stretches beyond the classroom or studio and that students are expected to engage with the work of these other designers.

Before she was cut off by Harry³ Sandra appeared to be elaborating an notion that design is a complex, or at least *holistic*, issue – to which bits of theory can be brought. It is not atheoretical, she was quite assured on that. In that sense she is closer to the part-time QS than the other full-time members of staff. Theory takes a back seat as something you can bring to the solution. Unlike the full-time QS staff who regard practice as driven by theory Sandra argues that design solutions are informed by theory.

8.2.4 Knowledge as Contestable.

The part-time staff are more ready, than the full-time staff, to admit that knowledge can be contested and challenged. Janey's view has already been referred to – that knowledge is both consensual, as Ian also holds, and contestable. In her field, contract, she emphasises the temporary, even ambiguous, nature of knowledge as encapsulated in legal judgements.

Janey *What I always try to do – and I know what the other people who teach Conditions of Contract do is the same – is there isn't always a right answer – but what you've got to do is find sufficient evidence to back up the answer you have.*

Int. So you avoid placing a prescribed interpretation on things?

Janey *Yes! Yes! – 'cos you can't dictate that – there are some court cases which say "at the moment this clause is deemed to mean –" but next week there could be another court case which goes to a higher court which says "No! That judge got it completely wrong" [...] There will always be the possibility that someone will view it differently – and fight it long enough and high enough that the interpretation will change.*

Janey's position can be contrasted with Akin's. Akin's process of abstracting experiences into texts results in fixed, neutral knowledge objects. Janey holds that knowledge is more, ephemeral. She also indicates that

knowledge is dialogic that changes in knowledge are a consequence of dialogues between actors. Indeed all that is needed for knowledge to change is for someone with enough tenacity, resources and will-power to challenge the existing status quo. Knowledge in this analysis becomes a product of someone with a vested interest and with sufficient power to redefine what is true.

The full-time QS students also recognised the contested nature of knowledge but again in limited relevance terms:

Ian *In the rule books you learn the theory but it is on the practical side of things that you learn.*

Although the full-time students perceived a gap between university knowledge and knowledge used in practice (Derick's *Bloody hell*) and between the complexity of practice and atomism of university knowledge, they were less able to identify or propose a remedy. Not so the part-time students. They also recognised the complexity of practice but, in practice, have access to resources to cope with such complexities. They tended to see deficiencies in university knowledge more in terms of subject areas taught and expressed it in relevance terms:

Mike *[..] the cost/ value reconciliation, for example, in a contractor's practice is perhaps the biggest report – monthly report – that they do and it's got a big input into the whole outcome of the company's profit margin's etc. And we haven't covered it in five years. The whole costing procedure and valuation procedures for contracts haven't been covered and I think that's one of the main functions of a quantity surveyor.*

Later, one of the girls:

Fiona *I mean – an awful lot of the course hasn't got much to do with what you actually do on a day to day basis – So the only way you're going to know is if somebody – someone else shows you or someone else explains – and then lets you get on with it – or whatever.*

¹ Well, a problem with group interviews!

Both Mike and Fiona challenge the relevance of what is included in the curriculum. The requirements of work in terms of the commercial viability of the firm are important to Mike and he wonders why something important to the profitability of the contracting firm is missing from the curriculum. This implicates the notion that Mike identifies with the goals and objectives of the organisation by feeling it important to be able to make a contribution to these goals. Contribution is through participation. Mike stresses that knowledge important to a contractor's QS, is not included in the curriculum, implying that the curriculum is more influenced by an agenda set by private practice quantity surveyors⁴.

Fiona also refers to relevance but recognises that she, unlike the full-time students, has mechanisms available, within the community of practice, to correct curriculum deficiencies. Mike, in a continuation of the above quote, recognises that the full-time students do not have this remedy available:

M *[.] later an employer is going to say to a graduate
 when he goes into his contracting organisation " go
 out and do a valuation of work" – and he wouldn't
 know where to start.*

The notion of meshing with organisational objectives is also referred to by Graham. After a comment by Fiona:

Fiona *[.] I think there's a big difference.*

Int. Why do you think that?

Graham *Comes down to experience, productivity, I
 mean you can take a graduate, they know the
 background, they understand the contract, they
 understand the technology – they can go out on site
 and understand what is going on – But!! When it
 comes to getting the job done ---*

For the part-time students the commercial and business imperatives of the firm, baldly put as *getting the job done*, are what matters. For this to happen two preconditions appear to be needed. Firstly an identification with the firm and the needs of the firm in meeting these imperatives and secondly for the student to know how to meet these imperatives. The part-time students are satisfied that they have this know-how. They hold that their full-time

⁴ This private practice/ contractor split is an old chestnut in quantity surveying

colleagues lack such know-how or even appreciate that such know-how is needed.

What appears to be the case is that the various groups, although they had favoured view, included different views of knowledge between the acquisition and participation metaphors of knowledge. What also emerges is that the closer a group is to practice the more complex and more inclusive their views about knowledge. The full-time staff have a one-dimensional view, silent about tacit knowledge and the prospect that knowledge may be contested. Meanwhile the part-time staff are ready to admit these dimensions to knowledge. They do this in an ecumenical way, for example knowledge according to Janey is both consensual or agreed but is also contested or capable of being contested. The full-time staff regard knowledge as agreed only. Moreover the students, both part-time and who have completed SWE, recognise these multi-dimensional aspects of knowledge. Even the students about to undertake SWE accept a tacit dimension to the knowledge(s) they expect to encounter in practice. The paradox appears to be that once this group return they will have a richer, more inclusive, conception of what constitutes knowledge than some of their tutors.

In addition, through their discourse, individuals tended to hold competing views. Again this is found more often the closer the participant is to practice. Thus Kate holds conceptual knowledge and the ability to practice in equal high regard. This is consistent with phenomenology - that competing views can co-exist in awareness in a *both/and* fashion. The exception to this rule, again, appears to be the full-time QS staff with their more single dimensional, *either/or* adherence to an acquisition view of knowledge.

8.3 Knowing.

Within phenomenology, subjective knowing should be different from objective knowledge. Certainly knowing, amongst the part-time staff, involves Ian's [*knowing*] *the job backwards* by the supervising surveyor in practice:

Ian *[..] and they were supervised by surveyors
who were natural surveyors -- who simply knew the
job backwards [..].*

Whilst this delimits a role for the teacher (and an aspiration for the student) it also defines the idea of “knowing” as something more than understanding the conceptual abstractions of the discipline. The use of the word *natural* is interesting. It implies something different from abstract, formal, conceptual knowledge. The notion of the *natural surveyor* implies someone who is at ease within the discipline, who has reconciled knowing with the demands of the discipline rather than someone who has a conceptual understanding of the job but who requires to mobilise this conceptual understanding into action on the job in a knowledge allowing action model. *The natural surveyor* has an understanding that goes beyond formal theoretical concepts perhaps into the tacit dimensions already discussed. Such knowing penetrates deeper into discipline than a more surface knowing restricted to theoretical concepts.

Janey expands knowing beyond narrow technical definitions of expertise or competence. Consistent with the notion of professionals *professing* (Koehn, 1994) she introduces an ethical dimension⁵. Knowing is about making the world a better place by being able to advance knowledge. It is about an ability to make a contribution in the world:

Janey *[..] in an ideal world, they want to find out
more to help and develop and create better
opportunities and a better world for everyone.*

Amongst the full-time QS staff knowing also involves having a more mature relationship with the world. This aspect of knowing is detectable as more evident in part-time students.

Akin *When you mark their [part-time students]
exams -- a bit of maturity in the way they've
articulated their responses -- the way they've
approached that -- and yes! -- there's a kind of
discipline among them --Discipline in the fact that
they have to be there --[..]*

⁵ a recurring theme in her interview.

Akin favours conceptual knowledge yet associates knowing with maturity. Knowing involves valued dimensions of maturity and discipline yet knowledge is acquisition of abstractions. Interestingly he implicates maturity and discipline as approaches if not to learning at least to exams and, by extension to preparing for exams. However if these are the aspiring *natural surveyors* of Ian, the maturity and discipline will be natural dimensions to their knowing and not a consequence of studying from texts as abstract representations of practice.

Despite this Akin still regards experience in transmission terms. When discussing SWE:

Akin *[..] in the vocational area we are dealing
with, we have true training through the practitioners
- that can actually impart knowledge.[..]*

Int. *Do you then regard knowledge as --*

Akin *Transferable!!*

In Akin's view SWE is a training exercise where knowledge is still regarded as object to be imparted or transferred. Given the emphasis on knowledge captured in texts, knowing, for Akin, involves where to search for information in libraries, books etc.

Akin *[..] you are not supposed to know things
[indistinct] "where can I get it" -- and look for it.
But then at the same time- for you to be able to know
-- where to get information -- you must have a bit of
knowledge of that subject area.*

Akin's knowledge is equated with, at worst information, but more likely concepts as *things* and knowing is about being able to locate such *things* presumably in texts and other media. In addition knowledge allows further knowing in terms resonant with Marton and Booth's (op. cit.) learning to experience. Knowing allows the student to seek out new experiences, all-be-it vicarious ones, in libraries. These vicarious experiences can then be the subject of study - preferably deep study.

The full-time, final year QS students place another dimension to their "knowing" which is a result of SWE. They talk about:

Stuart *[..] you definitely come away feeling more
composed speaking to different levels of managers*

and site staff -- you definitely get that -- you wouldn't pick that up in the classroom.

Dialogue and discussion with other participants on site, including those at management level, induces an emotional, and again tacit, dimension to knowing of *composure* and this is not available within the classroom. Knowing, in the classroom, as ability to abstract neutral concepts, does not have the same emotional, almost aesthetic, component but this is found in knowing appropriated in practice. Paradoxically this is also detected by the QS staff when the students return to university and has been described as increased maturity and confidence and is also found amongst the part-time students.

For the part-time students knowing is about being able to do the job alongside colleagues:

Mike *[..] the person who went down the part-time road knows the ropes and can really crack on and can manage three or four large projects [..]*

Knowing *the ropes*⁶ is something different from knowing concepts and can be related to Ian's *natural surveyors* who knew *the job backwards*. Learning, never mind teaching, *the ropes* does not feature in the university curriculum. *The ropes*, as knowing, are different from theory and are probably highly tacit. This, probably tacit, knowing enables practice and is counter-pointed by the part-time students with the knowing of the full-time students:

Fiona *[..] but I don't know about the full-time students -- feel about going into an office and might have a pile of drawings and having to Bill something. I don't see how they could even begin to do something like that ---*

Lynn *I think that's the biggest difference -- when we finish we're going to be able to go into an office and start whereas they're going to go into work and they won't know what to do [..]*

⁶ Given the sailing origins of the metaphor as being able to negotiate complex arrangements of tools.

The part-time students can *start*. They know how and where to start and can more fully participate in the office's activities – the full time students lack this capability.

Moreover knowing involves the history of the practice: where to look for things but not in the sense given by Akin. It involves being able to access into the collective uncoded, and therefore tacit, knowledges of the practice:

Steve *[..] the person that's been there five years knows that happened on such and such a job and exactly where to find it. So they can price a variation in half an hour, but it could probably take the graduate two or three hours --*

The experienced surveyor, or advanced apprentice, has a tacit knowledge of what is available within the practice, or community of practice, and reaches a quicker, probably, better solution than the graduate who has to rely on abstract knowledge in the absence of any developed tacit knowledge. He/she lacks the ability to plug into the collective tacit knowledge of the community of practice. In short the apprentice knows what resources are available within the community of practice and how to use them. This is not a chance happening, it involves a process of participating:

Steve *That's what we do. Just "Anybody dealt with this before? Anybody dealt with that?" and that's how you work and that's how everybody works. It sort of surprised me at first when people came up to me and talked to me about this--"Off the top of your head do you know --"*

Knowing for Steve is being able to take part in this maelstrom and being able to plug into the distributed knowledge of the community - asking and being asked questions, seeking answers and offering solutions. Solutions are to be found within this maelstrom, not within abstract knowledge codified into theory. This surprised Steve, particularly when he was expected to contribute. Participation, he was surprised to find, involves giving as well as taking.

Failure to participate has consequences. The participant can be compared with the non-participant. The former is not the solitary person working with his head down at his desk. Mike caricatures such a person as:

Mike *[...] and you see the people who are having difficulties are the guys who never lift their heads all day [...] he comes in, he puts his head down and gets on with things. But, really the guys round about have no idea what he's doing when he's got his head down. If he was to ask the questions of the guys round about he wouldn't need to be working so hard - If you put your head up and ask questions it makes your job easier as we - it saves you time and your learning quicker.* (my emphasis)

Head down is not participating in the practices of the office and the consequences are negative - the *head down* person denies him/herself access to the resources of the practice and has to work harder and learns slower. This is not idle office chit-chat that is being ignored, this is a discourse of questions and responses within the community of professional practice. By isolating him/herself from this discourse the *head down* person fails to learn, or at least learns slowly. The *head up* person participates with positive consequences - he/she does have access to the resources of the practice and as a result learns more quickly. His/her approach to learning is involved - by participating in the involved discourses of the practice. Involved participation could be characterised as a deep approach by such an apprentice. Uninvolved isolation could be equated if not with a surface approach to learning then, at least, as leading to surface learning. The paradox is that the *head down* person is working, perhaps studying hard, but it is not resulting in deep learning. The parallel, within the constitutionalist perspective, would be a deep approach, even committed approach, to studying failing to manifest deep learning.

Another feature which distinguishes the part-time students from the full-time is their emphasis on their perceived ability to contribute. Their legitimate peripheral participation, and concomitant knowing, contributes to business effectiveness and success and they identify with this success. This is no minor point. Learning leading to organisational business success

leading to national economic competitiveness is at the core of Scottish Executive thinking. Admittedly the part-time students do not directly connect learning to the economic priorities of Scotland. They do however talk about increasing knowledge, or learning, as an increasing ability to make a contribution at the community of practice or organisation/firm level. The full-time students, and staff, are silent on this issue. They talk of learning in more ego-centric terms with no reference to how their increased knowing enriches the lives of others (as Janey does) or contributes to greater organisational effectiveness. They do not refer to this, even when talking about supervised work experience. There could be reasons for this e.g. perhaps they are more diffident on this matter than their part-time colleagues but also, perhaps it is not an aspect of learning that the university based system attends to sufficiently.

8.4 Goal of Learning.

All groups view learning as purposive and instrumental, that learning, and its consequent knowing, enables other things to happen, especially in the workplace. This is an unremarkable finding given the vocational nature of the course. However there are other aspects to be considered. Second year quantity surveyors who had not yet been out on supervised work experience highlight two purposes of learning. To pass exams and to engage in work:

Joan *It's not through wanting to gain knowledge -
it's because you've got to do it to pass -- the test.*

Int. *So it's exam focused?*

Garry *Basically.*

Joan *I'd say so. Yeah! Rather than gaining
knowledge -- it's what's in assessment and can we
pass them --*

Garry *I'd say that especially in the first two years.
Maybe after you go on the work placement -- you're
basically finding out what the job actually does --
[..] So to that extent your just learning -- as Joan
says -- just you get through and pass -- rather than
learn about what your job actually --*

Joan *entails* (as interruption).

Int. *What implications are there? Are you quite happy about that?*

Joan *No! I don't think it's good. Because even I notice that I do it as well ---[..]*

Alice *I feel a lot of the subjects I can't relate to actual practical grounding for the job --*

Int. *But you haven't been out there ---*

Alice *I know that! I think that's why the placement's going to help a lot -- because --*

Joan *You're going to know what you need to know.*

Alice *-- what you're doing.*

Lee *[...] but you never know what you're going to need when you're out there -- so basically -- you should have learnt it -- not learnt it -- but you should have wanted to learn it -- so that it would have helped you in your job anyway [..]*

Garry *Once you're out there you can actually relate back to topics you've already done -- saying " Well! - that was valid right enough".*

Up until now the goal of learning has been exam focused; this is regretted but the students find themselves drawn in that direction. However, this group of students are about to go out into SWE and are moving towards a view of knowledge as something *helping you in your job*. Gary⁷ takes this a stage further by suggesting that practice will be where knowledge, gained in the university, will be validated. The presumption of the workplace is as a place where a job is done and the goal of learning is to enable that job to be done. In that sense this group of students concur with the full-time teaching staff's view of knowledge as a priori to practice. Their view of knowledge gained in the university is of abstractions which cannot be related to *a practical grounding for the job*. This has a negative effect – it is not *good* because it leads to an exam focus. There is a hint of university knowledge

⁷ Garry is slightly different - having a "trades" background as a joiner before starting the degree. About 5% of QS students may be from a "trades" background with about 15 - 20% of such students in the building surveying and construction management degrees. Students with a "trades" background are relatively rare on the Interior Design degree.

being abstract, assessment focused whilst SWE is anticipated as an active process of validating knowledge gained in the classroom.

This examination focus of learning in the university is associated, by the part-time students, with characteristics associated with a surface approach. Again the feeling is that this is regrettable.

Lynn *To sit an exam, you just memorise something
and write it down.*

**Int. How do you make the distinction between what
you need to know and what you don't?**

L *It's just something you pick up.*

Mick *It's what's in the exams.*

L *Ideally you'd learn everything but [others join in]
you don't have time for that.*

M. *So you need a strategy.*

L *Well, personally I think I'm quite lucky - I can just
read something and then that would be it for
however long it would take to pass an exam. Bu It
would not remember in 6 months time.*

University learning is focused on exams and because of, claimed other pressures, the part-time students feel compelled to adopt a memorising or surface/reproducing approach. They recognise that this is not an adequate way of learning. Again the emphasis on time is significant as a feeling of too much work has been associated with the surface approach (Entwistle and Ramsden, 1983). Lynn's reference to *it's just something you just pick up* is interesting as it indicates something, not unlike tacit knowledge, appropriated from a culture within the university - perhaps in a way not dissimilar from socio-cultural theories. That is the part-time students enter another classroom community of practice with its own corpus of tacit knowledge, manifested as a learning strategy which is picked up.

In contrast learning at work, for the part-time students, is more about adopting practices in the workplace as opposed to learning at university which is perceived as a form of personal enrichment through broadened horizons. But for Mick, there is no conflict between the two:

Int. So you accept that you do learn at work.

Lynn *Yeah!*

Mick *At work! I think, for a function, and a technique and you adopt work practices. Whereas in the university you learn [...] things you don't use but it's good to understand - so there is two different types of learning - one for function at work and, two, at the university, to sort of, broaden your own academic horizons.*

The two purposes are accepted and Mick operates quite comfortably with these two competing functions. He does not elaborate on how he reconciles them but he manages to do so.

For the part-time students practice is as important as the university and they view the office as more than somewhere where a job is done. The goal of learning is, partly, about preserving the integrity of the community of practice. The office is a place of inquiry leading to discourse. Inquiry and discourse are connected to other imperatives within the office e.g. quality issues (implicitly) and perception of the office by others. As such the part-time students identify themselves with others' perceptions of their offices:

Susan *So it's always been stressed to me "if you don't know - Ask!" and then you get it right -- because it's to be the firm that looks bad at the end of the day. If you're going to make a mess of things because you're trying to teach yourself. So I usually ask all the time.*

Working as a solitary learner places the whole community, of the practice, at risk of *look[ing] bad*. The student is discouraged from attempting to learn as a solitary act. Instead she is encouraged to use the resources of and expertise within the office by asking more expert others. Thereby the integrity of the community of practice is better protected. This links into other issues such as the quality of work. That a process of inquiry, by asking more knowledgeable surveyors at work, will ensure a satisfactory quality of work from the student. This, in turn, is important to the student because relationships at work figure in the equation:

Lynn *[...] I would hate for my boss to be thinking "she's absolutely crap, I wish she could do that better". I'd hate for somebody to think that -- and*

for you not to be worth it - [...] and I hope it's worth it for my boss - and the amount of money he's invested in putting me through university as well. You just want to do your best at the end of the day -- nobody wants to be known as a dummy -[...].

Mick *I don't see how anybody that does it -- if they don't think they're good at it could continue to do it.*

The trajectory is one of learn through discourse, by asking questions at work, to be good at your job thereby preserving the practice. To be good at your job is also important for emotional reasons of self esteem and identity. Central to this is discourse with, goodness, accepted as being judged by the more experienced surveyors in the firm. Negative assessments are discussed in terms of threats to self perception with positive assessments regarded as confirming esteem. The goal of learning ultimately leads, through approval within the practice, to a self perception as a competent learner and doer.

Identity is both gained from and with practice. It is important that self esteem is created from practice -- but at the same time the firm must not look bad. Identity with practice, or the other practitioners, and contribution to practice is equally important.

The full time quantity surveying staff have a slightly different goal of learning. They also relate it to practice but learning is more an issue of personal development and understanding practice rather than understanding how to practice. The full-time QS staff are the most dogmatic about learning as acquiring personal property and self enrichment although they do acknowledge its role in action but as a secondary consequence. The individual nature of knowledge is also implicated by Akin as opposed to the community nature commented upon by part-time students Mick and Susan.

Tim *I see it [learning] in terms of increasing the person's knowledge base in a specified area.*

Akin *you can relate it to property -- it is acquiring property - [...]-- and that's part of what you mean -- accumulation -- that's what I'd probably, describe as the accumulation of knowledge. [...] It's part of that -- yes! it's part of a personal possession -- in which case it could become an individualistic situation.*

Whilst there are suggestions of these sentiments, of knowledge as a personal acquisition, amongst part-time staff they are expressed in more robust terms than by the full-time staff. Akin is probably the most extreme, without using the term he appears to regard personal knowledge as private property. In addition the full-time QS staff do not introduce practice dimensions so often or so vigorously as part-time staff, part-time students or, even, students who have completed SWE.

The opposing view, which the part-time staff are closer to, is that by learning to work we understand how things work. Kate starts by expressing misgivings about the completeness of the QS as custodian of a whole lot of principles or concepts model. Kate associates learning at the university with understanding from first principles or conceptual understanding – an emphasis in the deep approach as defined in the approaches literature. Moreover Kate expresses this conceptual understanding within a “filling heads” metaphor. However in practice she intimates that such a deep approach may not be enough and she moves to a practice based metaphor which is more complete:

Kate [in the university] *we fill them full of estimating books and estimating principles -- “and this is how we do it from first principles”. They may then go out and they may join an estimating department -- they will see the role of the buyer -- someone phoning up -- suppliers’ prices coming in -- subcontractors’ prices coming in. They will see the practical applications -- and how it’s done in the real world and that might not be quite the way it is taught from first principles here.*

Kate describes the workings of a contractors’ estimating department and ascribes a role to the student as someone who *will see* various activities and roles played out. But the student is not to remain as a passive observer. However even by remaining as an observer, with, as Mike would say, his *head up*, the goal of learning would be to see how things occur in practice in Kate’s *real world*. The student is engaged in practice even if it is peripheral to that practice. Even so, such peripheral participation is compared favourably with the “deep learning” of first principles. Kate’s *real world* is

something different from the university world and is not as easily captured and represented in books, or lectures, as Akin hopes. The *real world*, complete with Ian's *lots of little things* should be experienced directly as a participant.

The full-time students emphasise the purpose of learning in terms of exams with the issue of *time* again mentioned:

Neil *[...] there's so much you need to know to pass the exams - you don't have time to say "Oh! I'm quite interested in that area" -- you've got no time for that.*

Derick *[...] yet were expected to go into exams and just regurgitate all this stuff -- and a lot of it isn't learned because a lot of it is crammed at the end of the year.*

Exams, again, are implicated with a surface approach intent on reproduction/regurgitation and are perceived as getting in the way of "becoming actively interested in the course content" a characteristic partnered, by Entwistle, with the deep approach. Exams invite a surface approach rather than Entwistle and Marton's (1993) thesis of creating knowledge objects constituted during intensive study as students prepare for exams.

Away from the university, in SWE, Ross refers to the purpose of learning in terms similar to the part-time students, linking it to the proximal relationships found in practice during SWE.

Ross *Well! It's, sort of, a similar relationship to the lecturer/ student but --it's they seem a bit closer with you - because they're involved in the project as well -- and obviously your quality of work reflects on them - so they want to make sure that your work is up to a certain standard.*

Involvement, or in approaches terms *becoming actively interested*, is at the core of the relationship and this involvement is activity, or *project*, led. The more experienced surveyor is involved *as well* in the shared activities of the project. Learning, *quality of work* the proximal nature of relationships and perceptions of others all coalesce. Just as with the part-time students there are acknowledged implications for the wider practice if work quality is

defective. The student accepts responsibilities to the wider practice but he is supported in realising these responsibilities by the proximal nature of the relationships found in practice. The question of identity with and responsibility to others re-emerges just as it did with the full-time students. Ultimately the goal of learning is to be able to get involved in, participate in and contribute to the shared activities of running a project.

For the Interior Design staff the goal of learning is to solve problems. The designer has at his/her disposal various “tools” available to solve a design problem. The designer is also required to be able to interpret other design solutions.

Paul [...] as Sandra mentioned you've got to give people a set of skills that they can actually take -- you know -- a set of principles, a set of procedures that they can actually re-interpret -- so that no two solutions are the same -- so they've got to be able to draw from their past knowledge and experiences that we hopefully give them -- to solve problems.

Int. So learning is about the ability to solve problems?

Sandra. In design - Yes!! because design is about solving problems -- I mean the whole premise of design is about solving problems. Solving them in, obviously, a wholly practical, coherent but creative way.

Int. So that would be the consequence of learning?

S Yes! but it would also be the goal.

The emphasis is not on a prescriptive set of procedures or algorithms to solve design problems as it would be in information processing theory. It is an emphasis on procedures capable of reinterpretation to generate creative solutions.

There is a tension amongst the interior design staff between individual enrichment, as the student metamorphoses towards problem solver and the student as part of a design community within the studio. Sandra starts by picking up on the notion of proximal relationships found, by others, in practice:

Sandra *I think the difference you would find with the staff here and the students is the closeness of the relationship with the staff -- [...] an enormous amount of their lives revolve around here [...] and, largely, most of us will deal with them as individuals -- so there is a lot of individual one-to-one relationships --*

Paul *There is a group dynamic [...] where people will learn from each other, and on some occasions they will work collectively and maybe they will bounce ideas off each other as well -- [...] but there are individuals who will produce and develop entirely outwith the group and will work simply as loners and they will be allowed to do that here - if they chose not to participate in a group. [...] but I think we see them as disparate individuals, you know, ourselves. We've got the luxury, I think, because we deal with them on a one-to-one basis in the studio situation.*

Within the studio setting interaction in a social setting is valued and is encouraged by the tutors. A group or collective dynamic exists, according to Paul where students *will bounce ideas off each other* just like Mike's *head up* practitioners. At the same time one-to-one sessions take place between the staff and individual students, just like Ian's apprentice and senior surveyor on a site visit. The goal of learning is to be able to participate in these communities - firstly the studio community as preparation for a community of practice.

The notion of the goal of learning as being an ability to work with others, in a community of practice, is picked up by the interior design students and counterpointed against some of the individualistic characteristics of the course. The interior design students see the need to study but this is seen as a lesser activity to the central issue of design located in the studio. Learning as designing in a studio setting is all important. Kirsty's comments are typical:

Kirsty *I think it's more design oriented at Florence Street -- there was more design work and the design lecturers were there to help you [...] certainly in final year a huge part of it is design [...]*

The notion of industry, or work as a place where the individual can flourish alone is discounted in favour of a collaborative view of work where the community or group becomes paramount because it contains resources or *different eyes*:

Paul (an ID student) *[...] you learned quicker that way - because you had to work in a group -- and, basically, that's what you're going to have to do in industry anyway - whether you like it or not -- so that's a good learning process as well -- even communicating with other people -- they'll come up with ideas that you'll not be thinking--they're looking at it through different eyes and they'll see things that you can't - and vice-versa -- which I think is a good thing.*

Paul perceives learning as more effective in group settings because the perspectives of other people become available. These perspectives become available to the individual to appropriate. For Paul, learning to work with other people is worthwhile and should be a goal in its own right - it is an imperative because, as Joanne agrees, that is what happens in industry. Contribution through participation is, also, implicated in the use of the term *vice-versa*.

Joanne highlights that, in the studio, the goal can change from a group collective orientation to an individualistic one with consequences which are at odds with what happens in industry. She implies that the honours classification system induces an individualistic approach which in turn has dysfunctional selfish consequences:

Jo. *I think that this is so - make or break -- and I think everybody is being much more selfish -- they're doing their own thing -- and ideally it would be better if we done more of a group thing [...] well I've worked in offices over the summer to find out what*

goes on in an interior design office - but it's not what I imagined it would be like - [...] I think one group thing in final year would be good -- a bit more -
[fades]

Int. *Because?*

Jo *Because like Paul said you have to work with people - even just working with like a different department [...].*

The notion of surprise at the differences between university and practice, found amongst quantity surveying students on entering SWE, is repeated by Joanne. Joanne worked in an office not to become a better designer per se, as one would expect, but to find out *what goes on in an interior design office* implying that this was not obvious from her academic career even in the studio setting. Although the problems set for students may be authentic the studio as a signifier of authentic practice is questioned by Joanne. Moreover practice was not what Joanne expected. She doesn't elaborate on what she found but her advocacy of more group design work would indicate that the idea of the *head down* individual designer was not found in practice whereas the designer working *head up* was. She contrasts this collaborative community with the more competitive, individualism associated with the "honours" classification. Sfard (op. cit.) does refer to competitiveness as a possible dysfunctional consequence of the acquisition metaphor - and Joanne agrees.

8.5 Learning

The nature of learning in Sfard's metaphor would be closely associated with the goal of learning. Thus if individual enrichment were perceived as the goal of learning then learning as the acquisition of a personal property would be the more likely association. This view of learning finds its most prominent expression amongst the full time quantity surveying staff, particularly Akin (see above). They, largely, follow a model of - concepts to be abstracted from relevant experiences, such as the construction of a high rise building, recorded into media which are then regarded as representations of vicarious experiences which the student can access. The student in studying these representations constructs concepts or, in constitutionalist

terms, *knowledge objects*. By studying these media and developing concepts, the student becomes a better student and, eventually, a better practitioner. This model of learning through studying is a recurring, if not consistent, feature in Entwistle's approaches to studying inventory. It should be, that this QS full-time staff group give a higher priority to deep approaches to learning, as studying, than the other groups. If memorising, as a feature of a surface approach, can be considered as a form of *individual enrichment* it, also, may be valued by this group. Similarly the intentional component of Prosser and Trigwell's CCSF attitude to teaching as seeking conceptual change should feature significantly amongst this group.

Norrie associates learning with doing but also with *getting knowledge* and knowledge itself as *having the information*:

- N. *I would be looking at learning from the point of view of -changes in behaviour - changes in ability in the students as a result of getting additional knowledge - they would be able to do something different - or more extensively before having the information [...] that will colour their approach to things, that will result in a change in approach to different situations -- rather than merely getting additional information to enable them to pass an exam.*

Norrie starts off in a participation metaphor, by linking learning with action, and counterpoints it with an acquisition metaphor of learning with information. However, although it will result in actional changes it is, still, action which is rooted in "got" knowledge - implicating an acquisition metaphor. Norrie in the one breath flits between the two of Sfard's metaphors - largely as Sfard predicts.

Ian, a part-time member of staff, talks about graduates having to be *moulded into useful members of staff*. The notion of contribution through participation finds expression by his reference to *responsibility*. A useful member of staff was one who could accept the responsibilities placed on him/her by the firm with learning on the job associated with acceptance of such responsibility. The apprentices became responsible under the guidance of *natural surveyors*.

Ian *[...] but they [apprentices] learned on the job, and really -- they had responsibilities placed upon them -- and they were supervised by surveyors who were natural surveyors.*

In a sense, for Ian, learning is a process involving contributing through accepting responsibility, undertaken *on the job* and supervised by *natural surveyors*. The apprentices became responsible, by having responsibilities placed on them, rather than through a process of harvesting concepts. Learning is equated with becoming responsible not with conceptual development. This is recognised by the full-time QS staff who referred to it in terms of *maturity* and *discipline*. Moreover the apprentices were supervised by people who *knew the job backwards* and took pride in the accomplishments and progress of their apprentices. These supervising surveyors may have advanced conceptual understanding of say, value management, but that's not important and is not mentioned by Ian. What is important is that they *knew the job backwards* and were *natural* rather than abstract. Knowing the job backwards and conceptual understanding are not synonymous in Ian's account.

However this view is not shared by all the part-time lecturers. Janey, for example holds an, Entwistle like, deep view of learning:

Janey *Learning is being able to take concepts on board [...] understand and follow the theory through- of what you're wanting and be able to acknowledge and understand it themselves rather than return it from memory. They've got to be able to understand the theory and concept behind what they are doing.*

Theory is foundational to doing. Like Tim, theory drives practice as opposed to Sandra's view that theory informs practice or is seen as confirming practice.

The final year, full time QS students subscribe, if more abruptly, to this view; they equate learning with studying expressed in individual process terms - and in Entwistle's strategic terms at that:

Derick *It's a process of gaining knowledge, skills and information.*

Neil *[.] from my point of view it's a case of reading it over and reading it over -- and keep reading it until it sinks in -- [..] you learnt it, basically, to go in and sit the paper.*

This is contrasted with learning during supervised work experience:

Neil *[..] It's, I mean, really hard to pick things up, I mean, so the first time you go on site is really, probably the major time there is a difference because you're starting to see, for the first time, what happens -- "Uh! Uh! Right! I understand that now" sort of thing.*

Derick *Sometimes it's -- it's "click" when you see it in practice.*

Neil describes this as a context issue and could be dismissed as regarding the site as a place for first hand, rather than vicarious, experiencing of something. By visiting the site he better experiences something which until then had been vicariously experienced by him through text or drawings in a textbook. The site provides a context for deep learning if not a deep approach to studying/learning. The context makes any deep approach less demanding, perhaps even unnecessary. By direct experiencing on site he understands - but he must first see it as Derick says *in practice*. Perhaps the notion of approaches to studying only become significant the more vicarious, or more removed from context, the learning becomes. The participation aspect of learning during supervised work experience is also discussed in approving terms and contrasted with the university:

Stuart *[..] a lot of the lecturers in first and second year were, you know, "here's a section to do and you assume that this has happened before and assume that it's "on" to do this - But when you're out on placement and see it actually happening - see where it's coming from and where it's going and your work being part of that application -- I think it sinks in more [..].*

Stuart is comparing the abstraction of the first and second year work in terms of assumptions that have to be built into the representation of a

problem i.e. what has happened before and what can be assumed as “on” at present. In other words any problem is representational of practice rather than authentic and has been abstracted from any context it may have had, thereby becoming an abstraction itself. Abstraction has decontextualised and simplified the problem by stripping it of its context and complex relationships within context. In practice contexts are explicit and no such simplifying assumptions need be made, indeed are impossible to make. This is because the student is participating in an ongoing, unfolding scenario where its coming from and where it is going. This latter remark implicates the horizontal nature of *it*, especially in terms of expectations. Moreover this scenario is more complex but it is one where the student’s contribution is recognisable. What was representational and diffuse in the university has become authentic and recognisable through participation on site. The result is a sense of it *sink[ing] in more*. A more complete learning experience with a more complete learning has occurred. As Derrick points out:

D *I would say I learnt more on work experience than everything else put together over the last three or four years at university. It’s just a different type of experience.*

A qualitatively improved way of experiencing results in qualitative improvements in learning just as Marton and Booth hold, albeit in classroom contexts. Reflection important in phenomenology and therefore to Marton and Booth (op. cit.) is also mentioned by students who have completed SWE, much in a way anticipated in the SWE documentation:

Int. *An episode happens on site - do you consciously think about it --*

Kevin *Sometimes you’re going to think “I should have done that” or whatever and you end up thinking about it a lot. Some things happen -and later on - and it just comes back into your thoughts again, you may not have spent much time thinking about it. There may be things you remember and other times you just miss something out or you’ve*

*got to do something again and that's conscious,
when you think something went wrong there.*

Things happen on site and the SWE student ends *up thinking about it a lot*. Later it may come *back into your thoughts*. But this is not a deliberate process. It is not deliberate by the student and there is no structure in place to facilitate this process. In this account nobody has come up to him/her and said "Well you have done that now it is time to reflect on it" That may happen but it is not needed for reflection to occur. Reflection can occur without any structured outside intervention. Learning, or at least thinking, appears to be inextricably linked to work without the need for such formalised structures.

Learning for the part-time students is less about acquiring concepts and more about responding to the way in which more expert surveyors go about their day to day business. Whilst the full-time students concede that the learning in practice, during SWE, was superior to university learning they are less than explicit about how such learning took place. Not so the part-time students. They are quite clear as to the mechanisms:

Mark *They [full time students] do their placements
[.] but it's just not enough - if they spend 30 hours a
week with a full time student they learn from each
other. But I'm spending 30 to 39 hours a week with
a guy who's been in the surveying industry for,
maybe, 20 years or so and just by sitting beside that
guy and listening to his phone calls and reading his
letters and seeing what he's producing on a daily
basis. [..] These guys influence your work, you learn
from, and [.] you pick up their good habits [..] you
react to phone calls and conversations in a similar
way as they would [..] and the best thing to do when
working with all these guys is to try and be selective
about what you pick up off each individual and pick
up all their good habits [..].*

Mick *[..] It's the language, the mannerisms and
the way to deal with people [..].He [the apprentice]*

hears people around him - he understands what he needs to achieve.

Mark starts by comparing his learning situation with that of the full time student, indicating that his more intense and proximal exposure to a practitioner is superior, in learning terms, to that of the full time student whose more limited exposure to practice during SWE is *just not enough*. He also insinuates that the full-time students represent a community who learn from each other 30 hours a week. What he is comparing is Rogoff et al's (1996) community of learners classroom model with his position in a community of authentic practice. It is clear which he prefers.

He then moves from the singular to the plural indicating that he, also, is part of a community and that the repertoire of actions within the community are available to him to learn from. The apprentice is saturated within an context of language and activity - such that he soon understands what needs to be achieved both by him, as an apprentice - and by an expert practitioner. Moreover he becomes aware of how an expert practitioner deals with each unfolding situation - in other words how he practices. In addition the productions of the more senior surveyors become available to the apprentice as artefacts to learn from and use. At the same time the apprentice is supervised - but this supervision becomes lighter until the apprentice is considered to be at a stage of requiring no more supervision than a skilled surveyor. Neither Mark nor Mick make blanket acceptances of all the practices of all the experienced surveyors. They are selective in what they *pick up*. In this way they individualise the knowledge they appropriate, they do not intend to become clones of anybody. At the same time they recognise that in practice knowledge is distributed - it is not private but is available to be *picked up*. If it were private, and regarded as private by the more experienced surveyors, they could not *pick up* and learn. Interestingly Mike uses the term *pick up* as opposed to *pick it up*. In this account he appears to have moved away from a knowledge as object view. In their account knowledge can be individualised or appropriated but not made private.

Another important point is this is more than doing - it is about *achieving*. It is goals oriented, the apprentice learns what has to be *achieved* - not just done. Things are not just done for the sake of doing them - they are purposive and this gives the actions of the apprentice added significance and

an appreciation that his contribution is potentially significant to the community of practice.

Mannerisms is an interesting expression used by Mick - they are important and are worth appropriating. These represent tacit knowledge and according to Mick are only available for appropriation in the workplace.

Mick *I've been in my job for 6 years - I'm starting to get a handle on it now and you go off and deal with things yourself and your boss overlooks - and is in control but you work under your own steam [...].*

He has *got a handle* on it. His position can be compared with the more peripheral condition of the new entrant:

Mark *So as a first year trainee, you're not expected to speak to people on the phone, As Mick says, you listen to people on the phone. You listen to the attitudes, the way they operate and your picking up and choosing -*

Expectations of the peripheral participant/ first year trainee are low. Effort is required as he listens and observes the more senior members. Their attitudes are noted, as is the way they operate. These are the important issues which are identified by the trainee as valid knowledge, not the theoretical implications of using a performance specification as opposed to a prescriptive one.

However there are circumstances when this model of learning is abandoned in favour of a more conceptual change, perhaps even transmission oriented approach. Discussing “contract” as an academic topic:

Mick *I think the “Contract”’s been good - a good insight [...] -- The only way to learn is to have somebody take the time, explain the clauses - because it's really hard to read -- and you're not going to do it in work, [...] and it's really difficult to understand the language - so I think that's good -- With the Development Appraisal - it gives you a better understanding of what's going on around you.*

In other words there are circumstances, as Wenger (1999) predicts, when learning does become focal. Someone needs, simply, to explain the

clauses. Perhaps because these clauses are more like text book concepts and as abstractions they may require an abstract approach. He also cites *Development Appraisal*, valuing it because it allows him a better way of understanding the world around him. A world beyond the boundary of his practice. To learn about development appraisal in a participation metaphor he would have to participate in development appraisal and this is not available to him in his workplace. This does not endorse an abstract approach to such a subject. Given Mick's central position for practice he might prefer to enter into a development appraisal practice but none-the-less accepts as *good* an abstract approach because the first approach is not available to him. The notion of attempts at classroom based authentic practice is missing from Mick's account. This could be for two reasons. One that it did not feature as an issue to him. Secondly, and perhaps more intriguing, as an authentic practitioner in practice he holds that authentic practice in the classroom is a chimera.

Learning for the interior design staff is less about developing theoretical concepts and more about increasing ability to make judgements and translate those judgements into designs. However it is still, mostly, regarded as individually focused:

Int. *Who is it that's learning is it the individual or the group?*

San. *The individual is learning.*

Int. *In a group context?*

Harry *To a certain degree - I don't think there's any doubt of that. We're concerned with the individual -- it's not a matter -- of we're going to stamp -- it's not a production line.*

Barb *What we're asking the student to do is come up with their own solution to the question - and everybody's solution's going to be different -- but giving them enough knowledge so they can make a valid judgement [...]. to come up with a good solution.*

The notion of the concept to be acquired is replaced with a more subjective, aesthetic notion of *judgement* but a judgement based on knowledge.

Judgement is a Kantian idea implicating a synthesis of concept and intuition (Scruton, 1982) as such learning viewed as improvement in judgement remains in Sfard's (op. cit.) definition as an acquisition metaphor. However Jan perceives learning in a participatory framework:

Jan *I think learning is partly a "we" process. I think creativity, obviously, comes partly from within and partly from what you see around you; but - the actual - a lot of the design process is about other people and you need their knowledge as you need your own.*

Jan is arguing that learning is dependent on context and other people are part of that context. She flits from discussing "learning" to discussing "creativity" perhaps viewing the terms, for the designer, as synonymous. If creativity is at the cusp of what designers do and it can only be accomplished in a participatory framework then learning to design should also be participatory. Ideally this should be with other interior designers or other professionals engaged in the design process, but, at least in the classroom as a classroom of participants. As Joanne (a student) points out:

Jo *I've got a friend doing architecture and she's doing an integrated project just now - you know quantity surveyors and structural engineers⁸ -- and I think that would have been interesting to do. 'Cos your not going to be working solely with designers.*

Learning would be more interesting in a participatory framework because participation, not just with designers but with other professionals, is at the core of practice – a point stressed by Von Krogh et.al. (2000) and alluded to by Rogoff (1995). This results in being actively interested in what your doing in course content which is a characteristic of a Entwistle's deep approach.

8.6 View of the student

Ian, describes the learning situation an apprentice surveyor would find him/herself in:

⁸ This is a reference to "Interact" which is part of a module undertaken by the level 3 QS's - but not mentioned by them during this study.

Ian *What would happen, in an apprenticeship, was that the apprentice would be taken along [to a construction site] by a senior surveyor doing a valuation - and he maybe not say to the apprentice "This is what you do in a valuation". He would simply do it! And the boy would be sitting along-side the surveyor and the surveyor would say "Right! -- materials on site - Yeah! But we need to watch where the property lies - and we do not pay for materials off-site" and that becomes a sort of tablet in stone - and the student remembers that - or the apprentice -- [...]. If Wullie in the office says "We do not pay for material off site"⁹ --- that's it!*

Ian's conception of the student is one of an apprentice accompanying an articulate, far from silent, senior, experienced surveyor. The student may not be given a formal instruction in how to go about an interim valuation of work on site but he is exposed to the actions and expressed thoughts of the senior surveyor. The student would then:

Ian *[...] try and replicate what he had been shown
[.] you would then [..] put that knowledge into
practice -- all of that I would call learning.*

But this is something more than mere copying. The student had witnessed an experienced and proficient practitioner and, in addition, had been given access, in discourse, to his opinions, in this instance in terms of a caveat about ownership of unfixed property on a building site¹⁰. Thus the student is able to grasp both the how and why of a particular complex activity and, being on a building site, relate it to the overall context of a building project. The student is inducted into how a particular practitioner would undertake a particular task. By accepting this position students/apprentices have been:

Ian *[..]mould[ed] into useful members of staff.*

Moreover learning has not been the focal activity. The focal activity is the start of a process which results in a contractor receiving timely payment for

⁹ There are mechanisms for such payments in most standard forms of contract – Kate refers to these later.

¹⁰ important should anyone go into liquidation - but, then, that never happens in the construction industry!!!!

work undertaken on site over the past month. Despite not being in focus learning happens.

Kate, also a practitioner, has reservations - the example given by Ian indicates a student being inducted into a “wrong”. According to Kate there is a “truth”. How that “truth” is established is irrelevant but there is a “truth” which the student is required to accept.

Kate *I think that why it's important, in a way, to have an academic background, because [...] sometimes what Wullie says isn't right. -- Because there is a mechanism for being paid for materials off site [...]. So, I mean, you can't knock the academic aspect of the degree - it has to be there -- it must be a foundation [...].*

Kate appeals to academic knowledge - that the student must have access to key concepts. Having access to this background the student would be aware of the complex mechanisms [given in standard forms of contract] for valuing material off site. Thus for Kate the student is, at least partially, a recipient of such concepts.

Both see discourse as important. The apprentice is taking part in an activity, led by the senior surveyor, but it is not an activity conducted in silence, the senior surveyor explains his actions and the basis for his actions - that care has to be taken about the payment for materials on site - which are visible and tangible to the apprentice. Kate sees it slightly differently that once the academic foundation is secure the student can engage in the discourses of QS practice.

Kate [continuing from the previous quotation] *it's like a foundation -- you've got to have that foundation -- and when you start to build the building then you can dip into experience on site and dip into discussions with colleagues --*

Kate sees the student as someone who can participate in the conversations of surveyors by *dipping in*. Kate, also, is indicating that there aspects of knowledge within quantity surveying which are contested and that, once having secured foundational knowledge, the student is better able to take part in the discourses surrounding these contested areas. Initially however

full participation is not possible and *dipping in* sounds more like someone on the edge of things making sporadic, tentative contributions - not unlike a legitimate peripheral participant. However, for Kate, such a peripheral participant requires a platform, or foundation, from which to participate and that foundation is provided by *the academic aspect of the degree*. Kate's position is of secure academic knowledge leading to peripheral participation, which, in turn, leads to full participation.

The full time QS staff perceive the student either as autonomous explorer or constructor of knowledge or as members of a community of learners.

Akin talks in the singular:

Akin *An individual -- such an individual is willing
to explore a situation -- looking -- doing their own
private reading -- searching about a particular
subject area [...]*

whilst Norrie talks in the plural but still in terms of *own learning*. It is not clear whether *own learning* refers to the plural community of learners or the singular individual.

N. *I don't like seeing passive students -- I prefer to find
them something and get them to work on it -- to
make their own progress -- to be a bit in charge of
their own learning.*

Stress is made, by the full time teaching staff, on students being able to conduct individual or peer-group research/learning with the only resources being those they bring to the learning event. The part time students conceive of the workplace as a resource rich environment with more expert surveyors available. Knowledge is asymmetrical in the part-time account of learning whilst in the full-time staff account it is contrived to be symmetrical.

A picture emerges, from Norrie, of the student who is active but active in pursuit of constructing his own private knowledge and as someone who has the ability to do this. Within this picture Norrie paints a picture of the "good student" which resonates with an acquisition metaphor and also parts of Entwistle's deep approach:

Int. *What makes a good student?*

N. *[.] is a good student one who is highly motivated, curious, willing to learn, wanting to learn.*

Norrie describes a student with the intrinsic motivation associated with a deep approach by Entwistle in a meaning orientation. Paradoxically the full time QS staff agree that the “good student” is more likely to be found amongst the part-time students and that full-time students are “better” when they return from supervised work experience. However the reasons given are different:

Akin *[..] from my own personal experience - the part-time - they are better – They are far more mature than the full time students.*

Tim *I would certainly agree with that.*

A range of sanctions are then reeled off by Tim, Akin and Norrie (who adds that they are more motivated) that can be applied to the part-time student e.g. failure on the course equals loss of job etc. In other words this maturity and discipline, commented on before, is recognised but not associated with any positive attributes of the part-time student’s situation e.g. the responsibility that’s being thrust onto them in Ian’s office. Nor is it perceived as knowledge or as a valid dimension of knowledge. This view of the part-time students contrasts with their view of full-time students on return from SWE during which *maturity and confidence* are detached from *knowledge*:

N *[..] they’ve gained substantially in maturity and confidence [..] they’ve also gained quite a bit of practical knowledge -- particularly the ones working for contractors where they’ve actually seen projects coming out of the ground [..].*

Maturity is something that can be *gained* like *practical knowledge* - but apparently only by the full-time students during SWE. The full-time staff, unlike the part-time staff, have difficulty accounting for the maturity and discipline of the part-time students and resort to a simplistic “big stick” account.

Janey also touches on the issue of the good student by a comparison of part-time and full-time students. In contrast to the account given by full-time staff Janey gives an account which depends on the part-time students being

better able, than the full-time students, to situate their classroom learning in their workplace experiences:

Janey *[..] they have a practical understanding of, in most cases, what they are learning. They see a deeper significance in the theory they're being taught --and so I think, often, they actually think - "well this is something I could take on board - theoretically - and apply practically at this stage in my life". Whereas the full-timers don't necessarily see the practical application of the theory they are getting - although they know it will be useful at a later stage [...] but they are not applying it at the moment, which the part-timers are or they're often able to see where it's being applied within their employment.*

Janey's earlier comments wedded her to a "theory leading to practice" model. However this model is changed subtly as far as the part-time students are concerned. The part-time students are already involved in practice then they are presented with a theory and this theory is connected to or situated into established practice. The theory either validates or contradicts practice. Which ever way, the part-time student is better placed to make the connection between theory and practice. Janey's ideas resonate with Eraut (2000) who talks about the ability to resituate knowledge in practice. However in some cases the practice has been established before the theoretical concepts are presented to the student. Theory still has an important role for Janey either as a guide to, informer of or validator of practice but not as a dictator of practice.

For the part-time student to be able to make a connection between theory and practice there would have to be a presumption of, at least, some transparency in practice such that the part-time student could observe from either a peripheral or an engaged position within the practice. As a result of this a deeper significance within the theory emerges. None-the-less Janey still talks about knowledge as object/concept and learning in terms of something I could take on board.

Ultimately however, for Janey, the good student is one who:

Janey *is able to balance all the theoretical skills –
the applied knowledge -- theoretical knowledge and
apply it in a practical basis [...] know the concepts --
follow them through -- be able to understand [...].*

Here she is outlining a student who is able to strike the correct balance between different types of knowledge identified by Taylor (op. cit.) as constituting knowledge used by professionals. The student's intention matches that given by Entwistle (1997) for the deep approach of "to understand ideas for yourself". From the first quote Janey is also talking about a process of "Relating ideas to previous knowledge and experience" which is similar to "Looking for patterns and underlying principles" associated as part of a deep approach (Entwistle, 1997).

As mentioned the view of the student by the interior design staff was as problem solver because as Barbara puts it:

Barbara *I think any designer is a problem solver.*

Problem solving is at the heart of design and this is tackled in an explicitly apprenticeship mode. Paul invokes the Bauhaus (touched upon in Chapter 4) and directly connects it with the notion of apprenticeship found in Rogoff:

Paul *I was trying to avoid as well - an old
Bauhaus idea - you know masters and people who
are learning as apprentices -- but, I think, that's our
approach, consciously or unconsciously, is quite
Bauhaus -- in that you're doing the kind of master
and apprentice thing [...]-- like the Bauhaus was the
whole idea -- it's everything linked together -- it's
a completely holistic approach.*

Sandra also refers to the Bauhaus by reference to its founder, Walter Gropius:

Sandra *[...] you're trying to make them interact with
each other [...] I think it's a positive thing. It gels the
group [...] - I mean it's an old idea -- Gropius had it
in the 1920's -- but it's still a good idea and it's still
worth pursuing.*

This picture of the studio is as a place where the master/apprentice relationship could flourish in an atmosphere of, claimed, authentic practice. It is one which is also recognisable within Rogoff et.al's (op. cit.) notion of a community of learners. Yet, if this is true, how did Joanne still managed to notice a disjunction between the studio and practice during her summer job.

8.7 View of the Teacher.

The different teaching groups had different conceptions of the role for the teacher:

- Full-time QS staff: - sometimes as transmitter and sometimes as facilitator.
- Part -time QS staff:- as bridge between practice and theory as master to an apprentice - in practice but not in the university.
- ID staff :- This group had perhaps the most complex and varied view
 - * as master to apprentice but in a framework owing more to the traditions of the studio/ atelier outlined by Lackney (1999) and Schon (1991)
 - * as a safety net
 - * as a protector from the real world - expressed by one tutor - partly supported by another.

The full-time Q.S. teaching staff had a fairly agreed view on the role of the teacher - primarily as facilitators:

Int. What then becomes the role for the teacher?

Tim *Well as facilitators -- point other people in a direction.[..]*

Norrie *I take a slightly different approach, [...] a view of seeing the teacher as somebody who organises --- the transfer of knowledge -*

Akin *What Norrie has said is quite right [...] the teacher can organise the procedure, the mode -- for*

knowledge to be gained at the same time the teacher will have knowledge of a particular subject - for that teacher to be able to organise things -

Akin proceeds to elaborate his point that the ability to source information is what is important and that a lecturer should be able to direct students to reliable sources of information - in other words act as a facilitator.

For Janey (part-time staff) teaching is about increasing the number of perspectives:

Janey *[..] I try to make students look at things or consider it from both points of view – this is what this says - but what could it be saying - what is the counter argument - what is the counter view here? In a different set of circumstances would this be the same and try to make them explore and investigate things from a different viewpoint.*

Janey is consistent with Marton and Booth and perhaps Cobb. *This is what it says - but what could it be saying* resonates with much of what the deep approach associates with as going beyond the surface meaning of a text. Again for Janey the teacher is someone who designs learning situations around *the architecture of variation*. This process invites the student to look at things from different and new perspectives. The teacher as eliminator of the natural attitude, whilst not explicitly present in what Janey states, is not far removed from this point of view.

Teachers of quantity surveying need not necessarily have practised as a quantity surveyor but it depends on the subject area. The part-time teaching staff admit:

Kate *I would agree with that entirely - there is a place for the lecturer who is just an academic.*

This is at odds with Ian's enthusiasm for the senior practitioner as teacher to an apprentice stated earlier (but Kate had misgivings about that model). What is interesting is the distinction made by Ian between the two roles. His perception of the university lecturer as concept oriented within a subject can be compared with the senior surveyor as practice oriented within a natural workplace setting. Similarly Janey explains her approach to a student she would receive into her practice for SWE or a trainee/apprentice in very

different from that used in the setting of the practice. She explains it in terms of nurturing with, again, an emphasis on the proximal one-to-one relationship. In addition Janey views this learning in investment terms - she is creating human capital.

Janey *[..] you tend to nurture them a bit more -- I think -- in that you're teaching them but you're nurturing them along. You're trying to keep them happy in their environment - then keep them in control if they can't do the job -- Bring them back and say "You haven't done that properly - you've got to do this again" and you're continually trying to encourage them on but keep them within a framework -- because they're going to be, hopefully, -- if you've invested a lot of time, energy and effort in them - they are going to be an employee of yours that you're going to benefit from --*

In terms of strategy Janey explains:

Janey *[..] you have to work out a ladder -- something that's going to be easy for them when they first arrive [but] you have to move that very quickly - [..] what is actually taking them to their ability that they've got and making them use their skills -- to make them actually stretch a bit further -- They've got to be able to feel that they are achieving something. If you put them in at the deep end they're just lost.*

Whilst Ian's account favours a situation in practice Janey's contrasts teaching in her office setting as a master to an apprentice, heavily contextualised around specific tasks and her view of teaching in the university as constituting perspectives. Perhaps she identifies two distinct cultures: one participative and the other acquisitive. If so Janey does not appear to have a problem flitting between these positions.

Although Ian reduces teaching to command of subject matter he, Janey and Kate regard themselves as bringers of experience to the classroom and as mediators of that experience within the classroom:

Ian *[..] to have people like us coming in who are experienced practitioners -- and are running a job every day and have a huge wealth of experience in the industry -- and simply to bring that experience to the students, founded on a sound theoretical basis of knowledge [..] enhanced by anecdotalism we have [..] Where we can actually say "last week this occurred in the office - and this is what we did - and we either got it right or we'll never do that again".*

Janey *In my class I've got part-timers and full-timers together - but I think - the full-timers -- I try always to see it from a practical application and give them a lot of "in practice----"*

What Ian, Kate and Janey are doing are bringing their experiences, gained in the world of practice, into the classroom. By so doing the classroom moves some way towards authentic practice and away from abstractions. In this process *storeys in practice* and *anecdotalism* are important as an antidote to Kate's potential abstract remoteness for the subject. Janey's comments are interesting in that she distinguishes the full-timers as needing the *practical application* without mentioning the part-time students implying that this approach is not needed with them. In other words Janey appears to advocate, without spelling it out, a twin track approach, one for full-time students which needs a robust *in practice* approach and the part-time students where this approach is not, all-together, required.

This notion of teachers being able to give "*in practice*" examples, or Ian's anecdotes, is endorsed by students. Second year construction management:

John *You wouldn't not listen to someone who had been through the textbooks --*

Kevin *I think it's easier -- it's easier for them to relate it as well --*

Steve *It's all to do with practical examples like -- setting up the blackboard --- "blah, blah, -- this is how it goes" and then saying "In my own personal experience when I worked in such and such a place*

*we done this” and that seemed to stick in my head
more than ---*

Jane *It’s the wee anecdotes -- and all that.*

Such anecdotes are recognised as bringing practice into the classroom or, as Cobb (1999) would have it, the teacher mediating between the world of practice and the world of the classroom. In terms of the constitutionalist perspective it is the teacher constructing a *relevance structure*. In both the accounts given, according relevance is the responsibility of the teacher.

With the exception of Sandra the interior design staff regard themselves as designers who teach rather than as teachers of design. When asked “why?” Barbara responds:

Barbara *Because initially that’s what I trained as --
we have been working in -- experienced in
professional -- and then came in to give the benefit of
our experience to the students [..]*

Sandra points out that she came directly into teaching from Art School and took *Leo’s choice*. According to Sandra the design studio is a place where reality is deliberately held at bay. Where the consequences of *Leo’s choice* unfold. Reality is recognised - but recognised as potentially damaging to the development of design awareness. Design awareness best flourishes in a less than authentic, artificial hot-house environment where the chill of the real world can be excluded. The particular chill to be excluded is the financial/commercial one. Designs should be developed without the need to recognise financial constraints.

Sandra *I don’t want to be in the real world. I can
always remember my old lecturer -
God bless him! - Leo you were wonderful! -- and he
said “This isn’t real -- I’ve chosen not to be in the
real world” - he said “You guys have to go out into
the real world” and since then I’ve made “Leo’s
choice” [..] ‘cos the real world will cut in soon
enough.*

In this account the studio is both authentic and non-authentic. It is authentic in attempting to replicate practice but it is non-authentic by removing one of the key elements within an authentic design problem.

Taking *Leo's choice* does not prevent Sandra from asking students to look at things in the real world outside the studio:

Sandra *I say "look at this, be aware of this; look at this, be conscious of that" and I always, with first year, taking a first year group to a lot of different places and saying "look at this, look at this". In the beginning - blank faces. At the end of the year the students come up and say "Sandra! come and look at this". I'd opened doors and a student had went through one [..].*

Sandra asks students to "*look at this and look at this*" not just "*look at this*". It is unlikely that she is asking students to look at a sequence of unrelated objects. If looking is relational then she, like Janey, is adopting a perspectival approach e.g. by asking students to look at different solutions, from practising designers, to design problems. Moreover she is charging the students to bring the real world into the studio where it can be subjected to discourse. Cobb and Marton and Booth charge this responsibility to the teacher.

Paul argues that learning, in design, is a risky business; it requires experimentation and experiments don't always work, but to be creative requires trying things out which may lead into cul-de-sacs. This requires the removal of pressure. He uses an acrobatic metaphor of the flying trapeze where he is the catcher but all eyes are on the flyer.

Paul *[..] I'm at great pains to try and get people to develop, to lose their inhibitions -- and basically what I'm saying is "Jump and I'll catch you -- it's OK" In the real world if you jump there's nobody going to catch you.*

Sandra *That's a nice way of putting it.*

Paul *Jump! What have you got to lose [..] whereas in practice if you go too far -- I mean -- you're going to have to -- any problems you cause you've got to sort out -- so it's sometimes in your best interest not to jump too far [..].*

But Harry disagrees:

Harry *That's the point, I think -- I do try and impart
a degree of reality [...] the degree of reality - it has to
work.*

Paul's notion of a safety-net is more powerful than that of the facilitator, described by full time QS staff who see their role as pointing students in the right direction. Paul argues that the student should chose the direction to explore but if this does turn out to be a cul-de-sac the teacher should be there, able to scaffold and extricate the student. Moreover this level of experimentation and creativity can only be realised when real world pressures are taken out of the equation.

With the exception of the Interior Design staff none of the groups of teaching staff referred explicitly to any requirement to adopt student perspectives as foundational to teaching:

Harry *[...] as the lecturer moves from board to
board looking at the student's own project and trying
to get into the way of thinking that the student's
trying to think. You're putting the student's hat on
[...]*

Amongst the full-time teaching staff little mention is made of discussion, conversations etc. That is not to say they do not happen, the students comment that they do , at least in the later years (see below). This may be associated with a "concept" based view of knowledge inviting a representational view of language. However there is a recurring theme of discussion, conversation and debate which Prosser and Trigwell associate with the strategy element of the Conceptual Change/ Student Focus approach to teaching amongst other groups. The interior design staff do not highlight discussion, but given their emphasis on visual communication they may be forgiven for this. It would be inconceivable that discussion and conversation will not take place during what Harry describes as taking the perspective of the student as the lecturer moves from board to board. It is unlikely that this would be a silent process. In any case discourse for Prosser and Trigwell is a mechanism to access the student perspective which is exactly Harry's intention.

In terms of student views of the teacher, final year, full time quantity surveyors contrast the closeness of the relationships in SWE with the

remoteness of university teacher/ student contacts. This was expressed in terms of one-to-one relationships with a “mentor” - a more experienced, but usually young, surveyor in practice. Relationships with others involved in the building process and working with the tools of the QS trade - principally drawings were also regarded as important. The distinction made was one of proximity of the mentor against the remoteness of the lecturer:

Derick *You work more with the mentor every day.
You tend to be really close with him -- a lecturer you
might see twice a week or so.*

Matt *A lot more one-to-one contact really*

D *Yes! and it's just you - yourself -- a couple of hours
a day working with him on something or whatever -
so you tend to learn more that way. The lecturer has
50 or 60 people in a lecture theatre at times. It's
hard to get that sort of contact.*

Matt *[..] it's one-to-one coupled with the fact that,
again, your seeing how it's actually happening.*

However not all practitioners were regarded in the same light. There was a greater sense of community, with younger practitioners in practice:

Matt *[.] you had a mentor – somebody you – not a
million miles away from you – either newly
graduated or chartered – so you can relate to them a
little bit better – They've come through a similar
course to you as well, some of the older guys got
into it through different routes.*

In other words the younger practitioners were conversant with course design and represented a bridge between the world of the classroom and the world of practice. This can be counter-pointed with views of the classroom teacher as a bridge between the world of practice and the classroom. This was expected and was expressed, initially with reference to part-time staff.

Int. What implications does that have for teaching practice in here?

Martin *I can say it's a good thing to have it – the
varying levels of experience – people who've been in
industry X number of years and maybe who's not*

been there for that long – you know? – part-time lecturers, somebody from industry, like sort of –

Der. *Janey!*

M. *Janey does, she's got her own work as well – as well as coming in here and helping and you know – I think it's good to get that across.*

But this was not limited to part-time staff, it was expected of full-time staff as well because:

M. *I think there's a danger maybe, for --- I used to think "maybe he knew what he was talking about 20/ 30 years ago" – but things are different now – but I think, now realise that some of the lecturers are actually still involved.*

Thus full-time staff were expected to be *still involved* with practice, though the capacity is not specified. If not the consequences were detachment expressed in terms of a loss of currency of the taught material.

The variation in classroom teacher experiences, welcomed by Martin, was also alluded to with reference to practice. In addition to a single mentor the resources of the firm were available to the student on SWE. These were also construed in terms of variations of expertise and experiences. Thus the student had access to multiple perspectives and multiple teachers:

Ross *[..] and the guys round about you were good enough to take time out and sit down -- and any time you had any trouble they were always good enough to work it out and advise you or point you in the right direction [...] the office I was in, there was a lot of varying levels of experience, from my level right up to partner and you got all these sort of levels in between -- you got a chance to work with everyone so -- [...] so you're getting different opinions, you know, people with different viewpoints in the same situation and I think that helped me a lot.*

The practice was not just a homogenous unit, Marton and Booth's (op. cit.). *architecture of variation* was represented by different levels experience and opinion - but there was also a *right direction*. Thus the student had to

reconcile *different opinions* with a *right direction*. In other words there is an “objective”, practice/ firm specified *right direction* but with “subjective”, individual practitioner defined *different opinions* about its nature. Despite these different opinions there remains, in practice and within the practice a consensus about the general nature of the *right direction*. Perhaps as Ian stated it was the profession which told you. Knowledge might be varied but, essentially, it was not contested – at least not in routine practice.

The proximity to experienced practitioners, during SWE, had two dimensions. Firstly, the closeness between the student and the mentor and secondly, the immediacy of what was being learnt and how it related to an overall process. The activities being undertaken were not detached and abstract representations of practice but seen as part of a larger more complex whole with other contributors. In this environment the students learnt. As they put it:

Ross *I would say I learnt more on work experience than everything else put together over the last three or four years at university. It's just a different type of experience. [...] It was very easy to go and speak to these people. It was working in two ways where the senior people weren't afraid to go and speak to a person who had just studied insurances for their dissertation - or whatever.*

The process was dialogic, the new graduate employee who had completed an academic dissertation on the vexing issue of insuring construction sites would be consulted by the “mentor” and the other senior surveyors. What was learnt by study and basic undergraduate research in the University was perceived as of value by the experienced practitioners. A contribution was made to the practice.

In general, the quantity surveyors distinguished between and expressed a preference for the more proximal relationship of the mentor/trainee in practice compared to the teacher/student relationship found in the university. Kirsty, a final year interior design student, also talked about the proximal relationships that develop in the studio and compares them with the more distant relationships found in the rest of the department:

Kirsty *We don't have a permanent base here - that's the difference between here and Florence Street [where the studios are located] - you always had your own drawing board and no matter if you had free time after you went -- you were always in a familiar environment - and there were teaching staff there -- so if you were stuck -- but it's a case -- up here -- you have to look -- look -- go and find them.*

The studio is a comfortable environment where the tools of design are located as are the more expert designers. If a problem arose it was not an issue - senior designers were available. Once dialogue has been established between the student and the tutor, Joanne wishes that dialogue to proceed in a manner similar to that described by Schon (op. cit.). Joanne starts by giving a negative account and then proceeds:

Jo. *They put a drawing down the hole - "I don't like that" -- whereas they turn round and say "right I don't like this but why don't you try this -- and OK! a wee sketch -- try that -- and try that" That "just go" - "I don't like that - change that " - That's no use.*

Donald *You need to know why you're changing something. If you've got a lecturer who is less creative than I expect them, at least to point you in a few right directions rather than say "that's wrong" and not telling why it's wrong.*

Paul *If you've created a problem for yourself they give you a way out -- OK! you might not follow the exact route they give you --*

What Joanne, Donald and Paul are describing is a scenario very similar to that which Schon describes. It is not just a question of the design tutor presenting a solution, action and discourse are implicated. A *wee sketch* is developed and an explanation given for trying what is suggested in the *wee sketch*. The student needs to know why what is proposed in the *wee sketch* represents an improvement on what he/she has already developed. Thereafter it is up to the student to develop things. The *wee sketch* is not a completed solution - it still requires some, probably considerable, work.

Moreover, Paul indicates that the student need not go down the route mapped out by the tutor. The student still has some autonomy in the process. However Paul (student) agrees with Paul (lecturer) on the role of the tutor as someone who extricates students from holes – all-be-it with slightly different metaphor from catching.

By prioritising design as a domain the student further prioritises the locus where learning design takes place that is the studio setting. However prioritising design does not preclude trying to do well in other subject areas.

Discussion was also perceived as a classroom feature by the full time QS students. Stuart detects a change in emphasis from first to final year:

Stuart *[..] more and more you're seeing lecturers
who can come and go a wee bit -- lecturers who can
work with you in a tutorial type exercise as well.
[..] I think the most important relationship between a
lecturer and the student is where they are both part
of the same thing.*

Ross *That's where the teamwork comes in.*

And later:

*[..] now it's a two way thing - maybe in first year, it
was just the lecturer giving out his stuff -- whereas
now, due to class sizes or the lecturer being more
familiar with you -- they are -- it's not so much a one
way thing now.*

Things have moved from a transmission model to a discursive model in advanced years and this is welcomed.

8.8 Identity.

Identity and responsibility have been coupled earlier, particularly by the part-time staff and students.

Identity may have two mutually constitutive aspects: identity from and identity with. The student gains some form of identity, from studying or within practice and he/she identifies with those he/she comes in contact with during these practices.

With the exception of Sandra all the teaching staff regarded themselves as either surveyors or designers first and lecturers second:

Int. *Do you regard yourselves as a quantity surveyor or a lecturer*

Kate *Oh!! a quantity surveyor (laughs)*

Ian *I'm a quantity surveyor [...] and I take some credit, kudos, out of that [...]*

Ian and Kate gain their identity from what they have practised yet Identity is a two way thing. Ian claims that the experienced practitioners would take pride in the progress of their apprentices:

Ian *[...] and they looked after their apprentices as a matter of pride -- that their boys would come through and become senior surveyors or partners -- or whatever -- and that was the culture in my office.*

For Ian the office had a culture in which the apprentices were more than ciphers. Emotions again are implicated as the apprentices were held in pride by the senior surveyors and they *came through*, not as graduates, but to become senior surveyors. They were embedded in a culture and *came through* from apprentices to surveyors to senior surveyors to masters/partners and the senior surveyors identified with this process.

Janey links identity with other aspects. For Janey, identity, understanding and theory are linked.

Janey *I am and have been and have the experience of being a quantity surveyor. I'm able to bring that experience to others -- and help them understand how to be a quantity surveyor - or what theory is behind quantity surveying [...]*

In Janey's version there is no disjunction between practical experience and theory. The practice of quantity is underpinned by theory and because she is a quantity surveyor her identity has a theoretical validation. Being a quantity surveyor implies a theory of quantity surveying and understanding *how to be a quantity surveyor* necessitates an understanding of the theoretical concepts behind quantity surveying.

The second year, full time quantity surveyors, prior to supervised work experience, are unsure about what it means to be a quantity surveyor and look to the SWE to explain it to them.

Int. *OK What does it mean to be a quantity surveyor?*

Ann *I don't think I know to be quite honest--*

Int. *Do you think it means something?*

Ann *Yeah -- I mean -- this is what we do -- but until you go out in practical experience I don't think you'll get a full understanding of everything involved. I mean we're told, obviously, a definition for a "quantity surveyor" -- but from the subjects we've been taught -- I don't think I know -- from what other people who've been out in placement -- I don't think I'd know what is really involved.*

Int. *O.K! "involved" - what do you mean by "involved"?*

Garry *You know, basically -- he plays about -- as part of the construction team [...] but as she says -- are we supposed to know at this stage? When we've not been out in placement -- just from the first two years?*

The students have been studying a series of topics for two years on a vocational degree course in quantity surveying and have a conception of a quantity surveyor as someone who *plays about* on a construction site! As Kate stated *a whole lot of facts does not make a good QS*. Or that a QS is more than a collection of understood concepts. What it means to be a quantity surveyor has not been revealed during 2 years of academic study but it is anticipated that this will be made known during SWE.

This is recognised by the full-time QS staff.

Akin *It is possible for a student to be on the programme for two years and not to know what is expected of him [...]. If they have a good placement that actually contributes to their knowledge of that particular profession or what a quantity surveyor will be - within that sort of office situation ---*

Tim indicates how this is attended to during the supervised work experience:

Tim *The full time students in the first two years [...] - and a lot of the stuff is just theory, and then they go out and into practice and then it just shows through -- they see what it is to be a quantity surveyor in a workplace. They have some sort of identity they didn't have before the work placement - a self perception.*

Thus Akin admits that a student can have reached the end of second year, about to venture out on supervised experience, having passed three semesters of exams and be awaiting the results from the fourth semester and still not know what is expected of a quantity surveyor either as a student or as a practitioner. Tim meanwhile, links the supervised work experience with identity. By seeing what happens in the workplace they become aware of the role of the quantity surveyor and by going *into practice* they return with *some sort of identity and self perception*.

Meanwhile the final year, part-time quantity surveying students regard themselves as quantity surveyors but deny this title to their full-time colleagues.

Int. *Do you perceive the full time students as students who are taking a course in quantity surveying or as quantity surveyors who are students?*

Lynn *Well! I don't think you can call them quantity surveyors until they've been working.*

Int. *Do you call yourself a quantity surveyor?*

L. *Yeah!!*

Others *Aye!!*

Mike *Lecturers always used to come into the lectures in first year, when I was a full time student¹¹, "OK You're the quantity surveyors then?" and you would sit back and think "I'm not a quantity surveyor - I just want to learn it - I hope to be eventually but I'm not a quantity surveyor". But the only reason I think I'm a quantity surveyor just now*

¹¹ a small number of full-time students remain with their SWE employer and convert to part-time mode of attendance.

is 'cos, when you write letters at work you write
"quantity surveyor" after your name.

Int. So you get your identity - from where?

Mike *From work.*

Others *From work.*

The part-time students gain their identity from work. A second strand emerges because they also identify with people at work and this has learning consequences:

Fiona *[.] I'm more inclined to remember something that my boss has told me rather than something somebody else has told me because I see him every and I need to remember it – 'cos if he asks me I'm going to look silly. Whereas, in here, nobody's going to ask me – except in exams – it's more personal.*

Int. More personal?

Fiona *Right! You go to your work and you see people every day [...] and try to make them happy with your performance. [...] I think there's also a lot more pressure on you at work to learn things than is in here [...] but you can learn something in here and you can forget it for a couple of months. But at work somebody'll be asking you questions – why you don't know it ---- there's more pressure ---*

Various things are implicated here. Firstly there are more personal and immediate relationships in practice which make it important to learn. Secondly the student feels a greater assessment requirement in practice. Her knowledge can be assessed at any time by her boss and because the relationship is personal the implications of failing within this discursive/assessment regime are felt to be grievous. Practice also is linked to discourse, it is quite legitimate for the boss to ask questions. These questions lose none of their urgency because they are situated within practice. Indeed, for Fiona, they appear to become more urgent. Another way of looking at what Fiona is saying is that discourse during practice represents a form of continual assessment within practice and because

discourse is central within practice so also is assessment. Discourse, learning and assessment coalesce in the immediacy of practice. This assessment is taken seriously by the student because there is an identity with practice and the other practitioners. Moreover this meshes with Lynn's statement earlier about hating the thought that her boss might think *she's absolutely crap*. Assessment by the university is dismissed, almost as an afterthought.

One feature worthy of comment regarding identity with others in practice is its rather myopic character. That is although goals and achievement oriented, the part time students contextualised this into the immediate work environment. They perceived themselves as of more value to the firm, than full-time graduates, and expressed this in terms of enhancing the firms overall competitiveness through personal effectiveness and personal contributions. They did not extend this beyond the province of the firm to the national competitiveness emphasised by the Scottish Executive.

The final year full-time quantity surveyors also perceived what it means to be a quantity surveyor by reference to their placement. When asked:

Int. *What does it mean to be a quantity surveyor?*

Stuart *[..]-- if you asked me that question in first or second year - before I done my placement - I would, maybe have likened it to work in a private office -- then but -*

Stuart talks about an identity which, perhaps not as naive as the current second year students about to embark on placement, is related to a workplace setting and which is revised as a result of his placement being in a management contracting organisation. The developing sense of identity can be potent. As Tina one of the full time construction management students stated on her return from SWE.

T. *When the HSE¹² came onto site and a guy that I work with introduced me as "this is our little student" -- do you know what I mean --- I was raging [..]*

Tina was being patronised and this probably contributed to her outrage but she may also have felt that she was now, after some time in practice, more

than just a *little student*. That she was a practising site manager. The important points are that identity is important, is associated with practice and is subject to revision by practice.

Sandra, the most senior of the Interior Design staff interviewed, identifies herself as a teacher, first and foremost and justifies her acceptance of taking *Leo's choice*. Sandra takes up this point by first stressing that she is a teacher who is also a designer, that she is offered, and sometimes accepts, commissions:

S *I'm a teacher, you know, I am a teacher [...] my job is opening doors - I've been doing it a lot longer than anybody else in here [...]*

8.9 Tools and Artefacts.

Tim points out that students during their SWE come into contact, not just with other practitioners, but with other devices or artefacts such as drawings. Such drawings are used in the construction of the building and these drawings are symbolic representations of the reality of the emerging building. The student, in practice, can co-relate, the drawings, as two dimensional symbol systems, with the reality of the emerging three dimensional building. During this process, which is not available to the student in the university, the student is able to make greater sense of the drawing. That the symbols on the drawings are not abstractions but are, or are capable of, transformation into a real building. Tim summarises by suggesting that it is reality that makes sense of abstractions not abstractions which make sense of reality.

Tim *[...] really you've learnt in reverse -- you've looked at the drawing and it hasn't meant much and then you've seen the building and then you've went back to the drawing and the drawing makes sense --*

This theme that part of learning involved using the tools and artefacts required to erect a complex building is confirmed by the final year full time quantity surveyors. Neil recounts his difficulties in understanding drawings, in class, prior to supervised work experience:

¹² Health and Safety Executive.

Neil *I mean, really, until I went on placement, a lot of the time when I looked at [...] plans [...] finding it hard to actually picture what it would look like - but after you've been on site - and stuff like that -- any stuff we've had since then -- when you see a drawing you, immediately, kind of, picture what it would be like walking through it [...] It makes everything easier to understand -- once you've seen the drawings, or the plans or the section or whatever for a building and then actually going in it -- and seeing that we constructed it -- I think -- it helps a lot.*

Neil endorses Tim's view that the ability to relate the tools of drawings, and drawings as a symbol system, to the construction activities on site and eventually to the finished building makes the understanding of drawings much easier. Until then drawings were a mystery. Students, in a sense went through the motions of "understanding" drawings. As Ross comments:

Ross *You learn the pictures, you learn the diagrams without really understanding it -- You just get the picture, you go into exams and you draw it out -- and then you go into your placement and you see it, or somebody else takes the trouble to explain it and, it seems to fall right into place --*
I find it difficult, sometimes, to picture things when you see a diagram, you know, maybe a section through a building and you just can't imagine how it is -- until you actually see it.

What was puzzling in class prior to SWE becomes transparent during SWE through having to use the tools and symbol systems for erecting complex buildings. Moreover the understanding that resulted was not specific but transferable to other drawings. By being able to understand drawings by reference to a specific project allowed facility in the general understanding of drawings. Several processes appear to be involved. Firstly, that the drawings are actively being used and referred to by the various participants in the building process including the student on SWE, secondly that the

drawings could be related to both the emerging and the completed building. Finally, more expert surveyors were on hand to explain the drawings or whose ways of using the drawings could be appropriated by the student. At the end of this process the student has a greater ability to understand drawings. Initially he could not understand drawings - he relied on rote memory to reproduce the drawings under exam conditions, he then moved to a position where he could understand the drawings by relating them to e.g. the finished building, to which he had contributed in constructing, by walking through it. Eventually he/she could conceptualise any, finished, three dimensional building from the two dimensional symbol system of any set of drawings. He/she had moved from a reliance on memory, a characteristic of a surface approach, to conceptual understanding, a deep approach characteristic. Ross's move from starting a paragraph, discussing a problem, in the singular and finishing by reference to a solution, in the plural is significant. Problems are regarded in individual terms but solutions are participative.

The part-time quantity surveyors also refer to drawings and their developing relationship to them:

Mike *[..] you see drawings when they come in, --
you do take -offs, you just gradually, through being
there, become familiar with what goes on here and
what goes on there - it just sticks.*

Drawings come in from a variety of sources and for the quantity surveyor to work on, measuring the quantities of materials and labour involved as represented by the lines etc. on the drawings, and through this process of active engagement, another deep approach characteristic, with the drawings a better understanding of drawings *just sticks*.

In terms of artefacts, the part-time students record how they learn handling the artefacts produced within the office, even while doing menial tasks such as checking calculations on a returned tender from a contractor. This is discussed by reference to the Bill of Quantities which would be issued by the private QS firm for pricing, competitively, by the contractor - the final price

representing the contractor's tender. The private QS checks the returned, priced, Bill for errors - there are prescribed procedures for handling errors.¹³

Lynn *Now you look at the Bills and you might just think its a bit of paper - [...] you're calc-checking a Bill, which will take you a full day - you're actually reading the Bill - you learn the contents of them and you learn the different building components - and, you know - generally you just pick up so much more.*

Lynn is recording how even as a marginal participant in a process learning takes place. Handling implicates attempts at understanding. Checking the calculations would be done in the office environment and this would allow her to ask questions of colleagues about items in the Bill which she does not understand. The Bill becomes like a text with an underlying meaning which is capable of being elicited in much the way Saljo (1997) suggests and that a deep approach involves going beyond the text to the author's meaning. Lynn indicates that this happens through processes of engagement with the Bill even during routine checking.

For the full-time interior design students the whole process is directed at producing something tangible, the student's portfolio, which will, later, be approved by a wider design community. The object, according to the design students, is for the student to create or assemble a artefact in the form of a portfolio which can be assessed by other design professionals during job interviews. Design is highly artefactual. What is important in the design portfolio are the artefacts of design - not essays or calculations:

Kirsty *[...] and what's going to get us jobs is our portfolio -- our portfolio is full of interior design -- and people are going to look at our design and they're going to give us a job based on that - they're not going to give us a job based on our good marks, as obviously you try to do well in everything [...] but they're not interested in that - they're only interested in the end result of the design - so we've really got to prioritise the design because that's going to get you a job [...].*

¹³ In the Code of Practice for Single Stage Selective Tendering.

8.10 Summary

All the interview participants had complex views of knowledge and learning ranging from acquisitive views to participative views. Indeed, as Sfard anticipated, the interview participants tended to mix their metaphors. This however was more apparent amongst those participants who most acknowledged participation as learning. These tended to the groups closer to actual participation in practice. In general these groups tended to have a more ecumenical view of things. This has already been mentioned relative to knowledge. The groups closer to participation having wider and richer conceptions of what constitutes knowledge, it is both tacit and explicit, it is both agreed and contested. Those who subscribed to a acquisition view tended to be more doctrinaire in their adherence to a one dimensional view. The full-time teaching groups were the group who most subscribed to this view. Knowledge was explicit rather than tacit and it was fixed and agreed. In terms of groups, those groups closer to practice tended to implicate a participative view without discounting a concept acquisition view. Those groups who favoured an acquisitive view, and again the full-time QS group is the one closest to this view, tended to talk exclusively within this metaphor. The closer the groups were to practice the more ecumenical their positions tended to be. Groups, although indicating group characteristics, were not entirely cohesive. For example, amongst the part-time staff, Ian favoured an apprenticeship model of learning whilst Kate recognised dangers if this model did not have checks and balances placed upon it. Again an example of contested knowledge. The full time groups tended to be more cohesive. The interior design staff being united within a Bauhaus model. Having a view of things which tends to the one dimensional, as the full-time QS staff appear to have, does tend to make a contested view of knowledge problematic.

This chapter has discussed the interview data using the headings derived from Sfard and Prawat. The next chapter will focus on more overarching issues, bringing the central question of whether deep approaches to learning, rather than studying, are possible within the other participation metaphor. Issues which will be discussed include the relationship between the metaphors as evidenced by the extent to which respondents refer to both metaphors in their talk, and the extent to which deep learning can be detected

within accounts of the participation metaphor. The other theme of university learning coalescing with national economic aspirations which emerged during the study will also be discussed.

:: CHAPTER 9 ::

::Discussion and Recommendations ::

9.1 Introduction

This thesis set out to explore the extent to which deep approaches to learning are possible in vocational degree courses in the construction industry. These notions of approaches to studying and teaching have been wedded to a theory developed by Marton and Booth (1997) and referred to as the constitutionalist perspective. Three hypotheses were generated in Chapter 1 which have been characterised as *either/or* or *both/and* hypotheses.

The *either/or* hypotheses are:

1. The constitutionalist perspective represents the one best theory upon which to base curriculum development of vocational degree courses in the construction industry.
2. Alternative socio-cultural theories represent the one best theory and a better basis for curriculum development of vocational degree courses in the construction industry.

The *both/and* hypothesis is:

3. There is no one best theory and a mix of both the constitutionalist perspective and socio-cultural theories offer a better basis for curriculum development of vocational degree courses in the construction industry.

The data were collected and analysed using the preferred methods of the constitutionalist perspective i.e. of an inventory, all-be-it adapted, and the phenomenologically analysed interview. Chapters 7 and 8 have analysed these data within two particular frameworks and result in two, possibly, recognisable realities. What remains to be answered is the central question of:

Is the notion of deep approaches to learning, which may include approaches to studying, openly horizontal, capable of *meaning [...] through an open horizon of "possible perceptions"* (Husserl, 1970, p.162) of other metaphors of learning, other locations for and from other perspectives on learning?

These potential open horizons were mapped out in Figure 1.1. From this initial question a second problem emerged from the hypotheses derived in Chapter 1:

Is Sfard correct in advocating an ecumenical, *and/both* attitude or is Prawat's more hierarchical *either/or* ordering justified?

A third issue which emerged during the thesis relates to the extent to which Scottish Executive aspirations for national competitiveness within a knowledge based economy become more credible when considered from the perspective of socio-cultural learning theories.

Other factors have also emerged. In Chapter 7 there appears to be a high level of consensus amongst the teaching staff in terms of approaches to both teaching and studying when measured by the inventories. The interview data belies this consensus, indicating a more diverse set of views between the three identified groups of teaching staff and between individuals within groups.

One particular set of views is that held by the interior design staff, who of the teaching groups, were a group who were most cohesive by subscribing to some sort of epistemic theory. This theory is not a mainstream learning theory but is premised on the Bauhaus of Walter Gropius. As such it places emphasis on studio based design practice as a form of authentic practice which resonates with the symbolic interactionism of Cobb (op. cit.) and Roth's (op. cit.) advocacy of authentic practice. In the interview part of the study this group emphasised discourse, during the studio crits, much more than their full-time QS colleagues. They attach an importance to discourse in much the same way as Ian, a part-time member of QS does when discussing learning in practice settings. In that sense their practices are closer to the accounts of teaching in practice given by the part-time QS group. This is picked up by the Interior Design students who expect their tutors to be expert designers and who describe the learning encounter as a discourse between themselves and this more expert other. During this process the design as solution moves towards a status acceptable to the external design community and which can be included in the student's portfolio. This does tend to indicate that authentic practices can be developed in the classroom and that the Interior Design programme might offer a model for the other programmes.

9.2 Are deep approaches to learning horizontal i.e. detectable from within other theoretical positions, other locations and from other perspectives.

The presumption within the constitutionalist perspective is that deep approaches to studying and hence learning are only possible when learning is in focus. The emphasis is on the *only*. The data in Chapter 7, based on the approaches to study and teaching inventory give some support to this perspective indicating, what Entwistle (1997b) refers to as, a *recognisable reality* (p.214). In short, deep, and the other approaches, are recognised and discriminated, especially, by teaching staff. Admittedly the data are problematic and invite further questions such as why are student groups less discriminating than staff groups (Fig. 7.1)? Why do all the student groups score the deep approach lower than any of the staff groups? Can it be dismissed as an example of socially desirable response on the part of the staff groups? Are the student approaches in response to the nature of the courses?

The main point is that despite some anomalies, Chapter 7 does portray a picture of campus based learning and teaching generally identifiable as a *recognisable reality* from within the constitutionalist perspective. In phenomenological terms the approaches are discernible within the external horizon of the constitutionalist perspective – but do they have an open horizon in other *possible harmonious instances* (Husserl, 1970 p.162)?

When the underlying dimensions of a learning theory developed by Sfard (op. cit.) and Prawat (op. cit.) are interrogated within Chapter 8 all staff and student groups recognised a view of knowledge as concepts in the mind with learning as acquisition of these concepts. In such a case a deep approach to studying such concepts, within a campus setting, would be considered as a valid and appropriate way to learn by the participating groups.

However some groups, particularly both part-time groups and those full-time student groups who have encountered practice, recognised practice as a location where significant learning occurred. Indeed the full-time student groups who had completed SWE, recognised practice as a more robust and a richer learning environment than the classroom, so-much-so that it came as a shock, and, eventually, a pleasant surprise to them.

This view that practice was a more robust and richer learning environment was echoed by the part-time students who were able to give a fuller account of how learning occurred in practice and who regarded their learning experience as superior to that of the full-time students. Evidence for their view that their learning is superior is their, claimed, superior performance in practice and, importantly, greater ability to contribute to the overall effectiveness of the organisation or community of practice. Learning as an increasing ability to legitimately participate in practice, and to contribute, is instantly recognised by the part-time student and, like their full-time counterparts, they recognise practice as a far more effective learning environment. Despite learning not being in focus practice is perceived, by student groups who have experienced it, as a more pressurised, intense but authentic learning environment than anything encountered on campus. They compare practice with a less intense campus environment and cannot understand how full-time students are unable to get first class honours awards. This in itself indicates an acceptance of a disjunction between practice and campus, that their practice experience does not offer them any tangible benefits once they come onto campus. In their eyes it should but it does not - or, if it does, it is not evident to them.

In addition they are clearer, than their full-time counterparts, in their account of learning occurring in a community setting. The *head down* or isolated student/apprentice is less effective both as a learner and as a contributing practitioner than the *head up* student/apprentice who participates within the community of practice. This implies that the community of practice model is not a panacea. There are circumstances when a failure to learn might occur, or a failure to learn what is available to learn, within the community of practice. Albeit this only occurs when a participant effectively resigns from the community by not participating. A failure to participate will, not surprisingly, result in a failure to learn. This, in turn, implies that qualitatively different levels of participation will result in qualitatively different learning - as Eraut (2000) has indicated. Such qualitatively differences in learning, in the situated model, may be the result of qualitatively different *approaches*, by the student/apprentice, to participation or, as in Eraut's concerns, in qualitatively different communities of practice.

The question of authenticity is recognised by both the part-time and the full-time students but with the former perceiving their learning as more authentic than anything experienced by the full-time students. Even the Supervised Work Experience of the full-time students is regarded as not authentic enough by the part-time students. Recognising such authenticity deepens any approach to learning even in a manner that could be recognised in the approaches literature. *Becoming actively interested* [in the course content] is a characteristic of the deep approach (Entwistle, 1997, p.19). According to the part-time students becoming actively interested in participation results from the authenticity of practice.

Attempts at authenticity are appreciated by the full-time students who comment on a visit to a “live” site as representing a more authentic learning experience than classroom based teaching. Even such limited¹ moves towards authenticity are appreciated and encourage changes towards a deep approaches to learning. Marton and Booth (op. cit.) would explain this in terms of the tutor creating a *relevance structure*. Similarly the deepening of approaches to learning and improved expectations of teachers as measured by the inventory issued to level 2/3 students, before and after SWE, could be a response to exposure to authentic practice - in practice. There may be aspects of practice which although not included within the constitutionalist perspective are consonant with it. For example the reduction in scores on the *Information Transfer* scale may be a tacit recognition by the students that this model of teaching was not encountered in practice and therefore deemed invalid.

The part-time students also tend to view learning using a wider range of dimensions to their definition of the term. Thus identity and the confirmation of identity feature more robustly in their accounts than within other student accounts. Indeed the other student groups perceive identity as non-problematic - as a non-issue. In that sense the part-time student view of learning in the communities of practices has both deep, more intense, authentic, dimensions and has broader aspects through encompassing more dimensions.

¹ I accompanied some of the student groups and they were not allowed access to the “body” of the site but could overlook the site from the safety of a viewing platform or from the site huts. Explanations of what was happening on site were given by site personnel.

These broadened dimensions are, also, alluded to by the full-time students by reference to the importance of tools and artefacts used in practice. In practice drawings are regarded as communication tools, a proxy language if you like, used by practitioners which show how a building fits together. In the classroom drawings are referred to as representational of the building. Use of and access to such tools is deemed important to learning – drawings, which were not understood in the classroom become understood in practice because they were used in practice. This is a paradox because the drawings encountered in practice would be much more complex, detailed and follow a prescribed, but more complex, structure than anything likely to be encountered particularly in textbooks. The drawings of the “live” site pinned up in classroom would of course be the exception. Such an absence of authenticity within the tool, as used in the classroom, prejudices learning to an extent which cannot be rectified, for example, through deep approaches to studying.

Although they do not mention the term, the part-time students also accept that they appropriate valuable tacit knowledge whilst in practice. Mark refers to these as *habits* whilst Mick uses the term *mannerisms* (p.177). Tacit dimensions to knowledge also feature significantly in the talk of the part-time staff. Ian refers to these as *lots of little things* (p.146) but which are important to the success of practice.

Despite all this, learning in the workplace is either less obvious to full-time staff groups or regarded as merely supportive to campus learning. Changes are detected within the students but these are not ascribed by the full-time staff as learning. This is particularly true of the full-time quantity surveying staff. They, especially Akin, hold to an acquisition view of learning with studying the preferred method for learning and, according to Akin, with textbooks, as proxies for experience, available for studying. They recognise changes in students returning from SWE, in terms of maturity, responsibility etc. but do not connect these with learning nor as recognisable aspects of knowledge. They appear to hold to the notion that the major benefit from SWE is that returning students have become better classroom learners as opposed to the notion that, by participating in practice, they might have learned something significant.

The full-time staff recognise the part-time students as better students or, *more correctly*, as students who produce better results, but cannot explain this other than by reference to simplistic accounts that the part-time students will lose their jobs if they do not proceed satisfactorily in the course.

Turning to the interior designers and, in terms of teaching, the interior design staff are the group who least expect a deep approach from students - *but this is very marginal (Fig. 7.1) when compared to the other two groups*. Their approach to teaching is predicated on the 1930's philosophies of Gropius and the Bauhaus. In that sense, they are more unified through subscription to a particular method of teaching, and assumptions about learning, than the other teaching groups. They follow a well established tradition found in the teaching of design disciplines. Within this tradition they have been able to absorb more recent ideas and cite problem based learning as an example, arguing that problem solving is at the core of design. Thus they do not appear to work within a constitutionalist perspective framework and should, perhaps, be expected to have a difficulty with its implications as manifested in the inventory. None-the-less this group only very marginally score the deep approach lower than the other two staff group, remain well above the median value of 3 and score it higher than any of the student groups. Thus, it could be argued, they have effectively dislocated the notion of the deep approach and resituated it into another, Bauhaus informed, idea² of learning. This idea is premised on authentic practice, though it could be argued that total authenticity is not achieved because of the way in which they isolate design from other activities such as making a Building Warrant application and the financial constraints which accompany design. Joanne, a student, touches upon this lack of authenticity when she recognised a disjunction between the studio and her summer involvement with a practice. None-the-less, the Interior Design staff, and students, emphasise the discursive nature of design as it occurs in the design studio - but only in the design studio. The students counterpoint it with the less discursive moments they find in their other subjects. In a sense this is consistent with socio-cultural theories - when designers meet they discuss design not the subsidiary tasks of negotiating

towards a Building Warrant or planning consent. What the interior designers appear to have done is attempt to make authentic their core activity of design without perceiving a need for such authenticity in other domains. In effect they only represent certain elements of practice in their studio work, core design activities should be situated as far as possible in an authentic representation of practice within the studio. The rest can be left - to a concept in the mind or constitutionalist perspective. As such, the core design aspect of the course, is recognisably closer to classroom based socio-cultural models than it is to the constitutionalist perspective and it is closer to these models than the classroom encounters experienced by the other student groups.

9.3 Sfarid's *both/and* - or - Prawat's *either/ or*?

The full-time teaching staff are the ones most likely to adhere to a "one best theory" approach. In the case of the full-time QS staff this one best theory would be a "mind centred" acquisition model describable in terms recognised within the constitutionalist perspective. Similarly the core Interior Design Staff cleave to a Gropius/Bauhaus informed idea not too distantly removed from a classroom based socio-cultural theory of Cobb (op. cit.) or Roth (op. cit.). The part-time staff adopt a more eclectic view. In Sfarid's terms their comments can be explained by their valuing both acquisition and participation metaphors. More importantly they see the need for the application of both these metaphors. Kate, perhaps, was typical. She saw academic knowledge as essential, as an arbiter of truth in the example of payments for goods not yet delivered to site. This was reinforced by her acceptance of a role for the academic. At the same time she emphasised that a concept based approach was not enough and *did not make a QS*. What the part-time staff appear to do is not so much hierarchically order the metaphors, implying one as superior to the other, but place them into a more layered arrangement, the concept or academic layer being foundational and available to support the participation layer. They appear comfortable in their ability to move between these layers. Though there are admissions, by Kate and Ian, that there might be academics who know more, conceptually, about

² It is difficult to define the Bauhaus other than as the intellectual heartland of the modern movement in art and design. Although influential in design schools' practices - whatever

a topic than they do, this does not prevent them from being effective practitioners - and teachers. Ian, rather nostalgically, recalls the apprenticeship system in terms Lave and Wenger (op. cit.) would applaud. What he says is better explained by the situated model but his talk also refers to the acquisition metaphor. Thus while their talk is largely configured by the participation model it also resonates with and draws from the acquisition model.

Although they talk of practice as enabling deeper and broader learning the part-time students also take a *both/and* view. They specify instances where the acquisition model is appropriate as in *Contract* where it is better if the learning is in focus and someone takes the student through the line-by-line details. Interestingly, it was also on a contractual issue that Kate undermined Ian's argument and justified an academic approach. A second instance is where the discipline is perceived as enabling the wider context of practice to be understood but where the discipline is not central to, and therefor unlikely to be encountered in, mainstream QS practice, *Development Appraisal* being the case illustrated.

The concept emphasised "one best theory" of the full-time quantity surveying staff would suggest an inability to easily move towards a *both/and* view principally because the socio-cultural view is not recognisable to them - at least in classroom terms. They admit the value of SWE to the full-time students, such admission might be interpreted in terms of SWE perceived as synergetic to, but detached from, the classroom or as attending to deficits detected in the full-time programme. The attitude might reduce to "Well! we know the classroom does not attend to these aspects - but that is the job of SWE". A division of labour results with the full-time staff perceiving themselves as specialist in enabling one form of learning and as experts in particular domains of knowledge. Other forms of learning are left to practitioners through SWE. Over specialisation often results in an inability to adapt and it may be that the full-time QS teaching staff would have difficulty in adapting to a more authentic practice orientation. Certainly they appear more rigid and one-dimensional in their thinking and probably less adaptable than their part-time colleagues.

The interior design programme is the one which closest resembles the authentic practice advocated by Roth (op. cit.). Even here gaps are perceived by Joanne such that the level of authenticity can be challenged. It may be that, as the part-time students suggest, the only authentic location for authenticity - is practice. This would imply, that despite the claims made for the studio, SWE should become part of the interior design programme.

9.4 Participation and contribution.

The notion of being better able to contribute to some greater social/organisational goal was referred to by the part-time students. This meshed with their notions of identity - that they were of worth within the organisational community. The thought of being worthless was a powerful driver for Lynn. To be known as a competent practitioner rather than *as a dummy* was very important to her. Similarly the part-time student was expected to contribute knowledge. Steve relates how someone might come up to him and say *Off the top of your head do you know --*. Mike refers to an issue neglected in the university curriculum *the cost/ value reconciliation* which is important to a contractor. He emphasises the importance of this *reconciliation* to the liquidity and profitability of the organisation as a justification for knowing how to do it. In other words a deficit in knowing prevents the student being able to contribute effectively to organisational or community goals. Graham and Mike also refer to this as an economic imperative when they refer to the greater productivity of the part-time student, in Mike's case as being able to *crack on and manage three or four large projects*. The part-time students regard themselves as better community and economic assets to the organisation because of their ability to contribute. This economic aspect is referred to by Janey, a part-time member of staff, when she refers to investing in students who come to her through SWE and also any apprentice she may employ. The part-time groups talk of learning in capital theory terms - certainly in human capital theory terms. But, by their indication that goals are community goals, the part-time students also discuss it in terms which may be described as community capital formation. The full-time participants are silent on this issue - the ability to contribute to wider objectives are ignored.

Whilst none of the groups make any reference to contributions to overall national competitiveness the part-time groups, by referring to organisational goals through their, more practice based views of learning, at least take a step towards that governmental aspiration.

9.5 Recommendations.

What has, so far, emerged is an argument in favour of Sfard's *both/ and* views rather than the view that curriculum should be informed by one particular view of knowledge and learning. Views on knowledge and learning, as encapsulated in particular learning theories or families of theories, are not explicitly stated within the department. None the less such views can be inferred from the practices within the department and these views can be regarded as skewed towards an "acquisition of concept in mind" view of learning where conceptual knowledge is king. This view is at odds with the talk of some of the key actors within the department, all student groups, part-time staff and interior design staff. The full-time QS staff are the exception and even here there is evidence of a disjunction between what they argue and what they say they experience. The recommendations are based on a need to bring elements of practice into the departments courses reflecting a shift towards a more socio-cultural or situated model.

Recommendations can be made at several levels departmental, institutional and policy.

9.5.1 At The Departmental Level.

The status of part-time members of staff.

At present part-time staff are regarded as little more than another pair of hands, recruited to fill in gaps in subject matter where full-time staff lack expertise. For example Ian and Janey were recruited in response to two members of full-time staff, who specialised in building contracts, leaving the department³. Because of this their contribution is regarded, by the department, as no different from full-time staff. Yet their different contribution is acknowledged by students – Janey getting a special mention. Due to their experience the part-time staff recognise their potential to make

³ Part-time members of staff, being on short term contracts are subject to a less bureaucratic recruitment process than full-time staff – equally they are easier to dismiss.

a unique contribution but is expressed, by them, in rather limited terms. For example Ian limits it to anecdotalage which he is able to bring to lectures and tutorials. This appears to be a serious under-valuing and under-use of their expertise and experience.

The part-time staff, as practitioners, have access, through participation, to a wealth of case study material which cuts across subject area boundaries. They also talk of their knowledge in terms which Eraut (2000) and Von Krogh et al. (2000) would define as tacit. Just as Von Krogh et al. identify tacit knowledge as a valuable competitive asset to the organisation, perhaps it should also be regarded as a pedagogic asset which this group of staff bring to the curriculum.

Any case study presentation should be framed to allow the part-time staff, as far as possible, to make evident both their tacit knowledge and how this tacit knowledge contributed to successful practice. This may involve references, by them, to how domains such as management, contract, procurement and technological integrate in complex ways within successful practice. The full-time QS, and other, staff are unable to do this. First they do not have access to the case study material and, secondly, they lack the practice focus to give meanings to this material. At the same time those full-time staff who are research active can continue to give presentations to students. This again tends to return to a less holistic, more atomistic, approach as most research investigates specific, even narrow, topics such as value management, Private Finance Initiatives (PFI) as a procurement route, interoperability within CAD systems etc. Thus the concept of interoperability and database connectivity which the major CAD, and other software publishers, are wrestling with, and which is not yet found in practice, can be discussed with some validity because it is a possible future technology which communities of practices, within the industry, will be confronted with.

What is being argued here is not so much the recruitment of more part-time staff, although that would be welcome, but more a review of their contribution. In particular a review between their actual, unnecessarily delimited, contribution and their ability, through their lived experiences in practice and their highly tacit knowledge, to give greater meaning to what it

is to be a practising quantity surveyor, construction manager, interior designer etc.

Course configuration and Supervised Work Experience.

Supervised work experience should feature in full-time interior design programmes and students articulating from HND programmes into level 3 of the degree programmes. This latter group are denied supervised work experience on the rather spurious grounds of administrative reasons - that their articulation takes place during the summer recess months during which they are awaiting confirmation of results and are not officially students of the university. Closer liaison with FE colleges whence the students come would resolve that problem. The simplest procedure would be to allow university staff, involved in SWE, providing staff at FE colleges with approved placement practices and organisations.

Supervised work experience itself should be revisited. It is highly valued by the students but, as mentioned in Chapter 2 where its assessment regime is given, in terms of overall terms, it represents 60 credit points at level 3. Courses are constructed of 4 levels each of 120 credit points.

The department should release its 80% stranglehold on the assessment of SWE and allow more scope for assessment by the employers. At the same time assessment should be based less on the notion of sameness, implied by the domination of written assessments submitted to tutors, and more on a notion of equivalency. Billett (2001) has recently used the term *microsociological approaches* (p. 438) to highlight that social practices are differentiated within different communities of practices in the same domain or employment sector. Such differentiation is a significant aspect of SWE. Unlike the lecture theatre, a student with one employer will not have the same learning experience as one with another employer - so why should assessment be premised on sameness? Students attending lectures and tutorials are presumed to have encountered, more-or-less, the same learning experience and can therefor be assessed in a like manner. This in turn allows centralised assessment regimes with exams being the archetypal method. SWE assessment should be more localised and more delegated to the employers. Accountability is a key feature of practice. As the legitimate peripheral participant increases his expertise he is held increasingly accountable for his performance. Assessment in practice should be based on

this notion of accountability as events transpire. Thus as a project reaches a benchmark stage e.g. going out to tender (for QS's) the project could be evaluated with the contribution of participants, including the SWE student, assessed.

Employers are not unfamiliar with the notion of assessment. They often have sophisticated assessment regimes in place in the guise of performance appraisal systems linked through to notions of Total Quality Management. The department should examine the possibility of developing *action learning programmes* as advocated by Stewart (op. cit.). Learning objectives should be considered alongside a review of achievement, with both incorporated into business and work-plans. Learning and achievement should be coupled more closely, and more explicitly, than the present system based on reflection from practice suggests.

It may be, where appraisal systems are in place, that these might include, from a socio-cultural perspective, more valid assessment criteria than any formalised regime developed within the university. The key point is that any assessment regime should be more practice driven, greater reflecting performance and achievements in practice and use assessment tools, such as performance appraisal systems, used within practice.

This, of course admits that assessment should be more localised and not subject to the tight prescription Billett (op. cit.) associates with academia. Whilst validity is attended to, a problem of reliability arises. Assessment should never be capricious - it should be evidence-based. Evidence is usually construed as "bits of paper" – but can take various forms e.g. the productions of the student/apprentice. Projects generate a wealth of documented evidence. For example practising designers include their contributions from live projects into portfolios for future job interviews. Other productions could include diaries, log books, photo-journals etc. which, with more frequent visits and reports by tutors, could generate sufficient documented evidence to satisfy the most demanding QA system. In short the three, Schon based, essays, in the current one semester SWE should be replaced with a *practice portfolio* made up of three items, or artefacts, which the student selects from his SWE as representing best examples of his work. Statements as to the validity and value of his contribution could be made through site or practice based peer and

supervisor assessments. Evidence for a student's contribution to setting out a primary school could be supported by log book, peer and supervisors assessments a photo-journal of the process and a student's own assessment of the difficulties encountered and the solutions arrived at. This example was not chosen at random. Setting out buildings and road layouts etc. is an important aspect of a site engineers/managers activities yet it never features in any of the Schon based reports submitted by students. Indeed it is a skill which the contractors receiving SWE students report is the least well developed in students and one which they have to attend to.

It is recommended that any reports by visiting tutors should be formative and not summative to allow more opportunity for employer based assessment.

The development of an evidence-based, but less university prescribed, assessment regime should be a priority. It should focus on key expertises expected in practice. The assessment regime should reflect the diverse nature of practice. Indeed it could be developed using the headings shown in Table 2.3 given by Sfard (op. cit.) and Prawat (op. cit.).

None of this precludes students abstracting concepts from practice or attempting to connect practice with theoretical concepts to be presented in essay or report format to tutors. Both, performance and abstraction, aspects of assessment can be included. All that remains is to decide on the relative weighting and this is suggested as 50% employer based and reduced to 50% based on submitted reports to tutors.

Other options that should be considered are increasing the period of SWE to 2 semesters. As most students are retained over holiday periods this would effectively result in a 52 – 64 week SWE period. Practices might prefer this option. Arguably the existing 8 month system is inefficient to them because it does not generate a “payback” to them for their efforts invested in the student. There would be counter arguments – not least the loss of revenue to the department⁴. Other counter arguments revolve around the nature of the construction industry as a capital goods industry and the effect this has on the ease of student placement. The construction industry is much more volatile than other industries over the business cycle. When the economy

⁴ Students on placement are not funded by the Scottish Executive to the same value as students attending in the university.

dips the construction industry dives, when the economy picks-up the construction industry rockets. In both these scenarios it can be difficult to place students.

Supervised Work Experience should also be looked at relative to other aspects of the course. Linking the dissertation to SWE would be one possibility. At present the dissertation tends to be an introductory exercise in academic research, with a positivist flavour and with the vast majority of students opting for questionnaire or structured interview methods. Linking SWE to the dissertation would enable several things:

- it would consolidate the importance of SWE both to students and staff
- it would link SWE, more fully and at a more robust level than the current system, with theoretical concepts and, hopefully, thereby better resolve any theory/practice disjunction
- it would allow other research methods to be developed, particularly case study, action research and critical action research. To my knowledge no dissertation has ever been conducted using action research as methodology. In that sense it would make dissertations more relevant to and valuable to practice. Through time it might even lead to practices commissioning small scale research.

In Chapter 1 it was mentioned that there is a move towards limiting the number of students who would be allowed to undertake a dissertation. Weaker students would be encouraged to undertake a project with such students' honours classification limited at, possibly, second class lower division. The Interior Design programme is project driven and this programme is the one with, in the sense understood through the socio-cultural model, a form of authentic practice in the studio. Indeed from a socio-cultural perspective arguments can be advanced for the displacement of the final year dissertation with a project which is configured on the principles of authentic practice. What is recommended is that students be given the opportunity of a project or a dissertation with no "penalty" attached to either choice. What becomes important is the allocation of tutors

within this framework with the part-time staff and full -time staff with recent practice experience supervising projects.

Classroom configuration and authenticity.

Classrooms could be more configured as communities of practice with an emphasis on authentic problem solving. At present full-time and part-time students attend the same lectures but go their separate ways for tutorials. Whilst there is little chance for discussion in lectures, tutorials present the opportunity for discursive communities to be established. These could be better configured towards a communities of practice model with part-time staff as expert participants, part-time students as intermediate participants and full-time students as legitimate peripheral participants. This, in turn, presents another role for, and a better use of, part-time staff's expertise. Their contribution could be better directed at leading such tutorials rather than as lecturers replicating what the full-time lecturers can already do. Within this system, the boundaries between module subject matter, unlikely to be found in practice, should be dissolved. Tightly bounded modules, founded on the notion of the concept in the mind as representing valid knowledge, are an impediment to the notion of authentic practice. Professional practice, even in its simplest definition, is characterised by its complexity and this could work against achieving full classroom authenticity. If drawings, at level 1, were to be regarded as tools of communication as they are in practice, in addition to representations of the building, as they are in textbooks, then a much more complex curriculum would develop. This would risk overwhelming a first year student unless limited to very simple exercises, which in turn would be unlikely to be found in practice. What is argued here is that full authenticity in complex practices may not be possible. To seek to achieve it would be so demanding of staff and student effort that there would be no room left for any aspects of the acquisition metaphor. In effect this would be a return to the *either/or* position rejected by Sfard and this study. Within the *both/and* position advanced here is an admission that full authenticity in the classroom is unattainable - a variant of the full-time student argument that authentic professional practice is only found - in professional practice.

That does not mean to say that authenticity in the classroom should not be striven for. There are many grades of authenticity and whilst full

authenticity is reserved for practice, and possibly attainable within SWE, its quest should not be abandoned in the classroom. There are plenty of opportunities for increased authenticity – not least in the development of cross modular projects.

Authenticity, as recognised by the part-time students and full-time students who have completed SWE, appears to have some connection to tacit knowledge. The challenge becomes one of making the classroom more authentic by including more elements of tacit knowledge in the curriculum. Again the part-time staff would be focal in responding to such a challenge.

Involvement of Part-time staff in curriculum development.

As mentioned part-time staff are regarded as little more than another pair of hands. They are not invited to participate in curriculum development although they can, of course, make their views known through informal channels. Curriculum development does involve practitioners but sometimes in a perfunctory way e.g. the token issue of questionnaire to local practices. Meanwhile four experienced practitioners are available for consultation and available to participate in curriculum development.

Continuous Professional Development.

The department runs a series of lecture events which can be credited by practitioner attendees towards the continuous professional development (CPD) requirements of the Institute of Building. Most staff who present at these events do so from their current lecture or research material. For example I am giving a presentation entitled “*Smart CAD*” which is a synopsis of some undergraduate lecture material. Students are invited to attend but rarely do, partly because these are evening events which might repeat already received wisdom. However, because the audience consists of practitioners, CPD events tend to generate a different type of interaction during any question and answer sessions. What students would be exposed to is this interaction – the reaction of practitioners to a presentation in terms of the type of questions deemed important by practitioners and their level of criticism. The students would also be exposed to the debates generated on a particular issue and the extent to which such issues may be contested. These events are much less formal than classroom events. The practitioners arrive, typically 30 minutes before-hand and do not leave for their next class immediately. In short a lot of informal “networking” - a sort of hidden

curriculum of practitioners - surrounds these events. During these processes students might be peripheral but may also contribute to these activities.

Sabbaticals.

At present, within the department, the sabbatical system is poorly developed. One member of staff, at professorial level, is on a research sabbatical in the USA. Whilst staff have well developed contacts with industry they do not extend to sabbatical placements. If student accounts of learning in the workplace are correct staff, like students, should find learning in the workplace stimulating and deep. The full-time quantity surveying staff would appear to be the staff group in most need of workplace based sabbaticals. It is recommended that the department initiate a practice based sabbatical system.

9.5.2 At The Institutional Level.

The university has a Quality Assurance system. Any proposed changes, either to modules or courses, would require to satisfy this system. The operation of the QA system is devolved to faculties. However, from the evidence within one department, the system appears to operate against a background of a disjunction between what courses and university documents emphasise, as a consequences of the influence of the approaches literature, and the talk by most of the participants in this study. Whilst the ethos within the department may be inclined towards an acquisition view of learning what most of the participants in this study indicate are references towards the use of both acquisition and participation metaphors. If Sfard (op. cit.) is correct this may true elsewhere - documents indicating one thing and teacher practice in vocational departments another. No admittance is allowed for in departmental documents for a socio-culturally dimension to learning. *Even the SWE documents emphasise reflective abstraction from practice.*

Yet, elsewhere in the University, the Learning and Education Department (LED) are aware of the implications of socio-cultural theories. Recently (11th Sept. 2001) they ran a seminar on the ethical issues involved in identity formation implied within such theories. As pointed out in Chapter 4 Webb's (op. cit.) has argued that the approaches literature has achieved hegemonic status. What constitutes quality in a QA system is determined by

reference to the approaches literature. Moreover, these determinations are politicised as structures are built, people appointed on the basis of their commitment to these approaches. As such there may be significant practical difficulties in implementing a change towards socio-cultural theories.

LED would be an invaluable ally in this process possibly taking the lead in such a venture. Again Sfard's argument that we inevitably use a *both/and* approach offers a solution. By accepting the need to retain the acquisition metaphor such changes can be presented in a non-threatening manner as complimentary to and not a replacement for the constitutionalist perspective.

9.5.3 At The National Level.

Whilst full-time staff and students were silent on the whole issue of identity, the part-time students, more inclined towards a participation metaphor, indicated an identity, through participation and contribution, with their work organisations. This includes identifying with colleagues and with the aspirations of the organisations. This is expressed by references to contributions towards organisational effectiveness, profitability and overall economic performance. They contrast these aspects of their participation with the levels of participation they witness from SWE students and indeed newly appointed graduates arriving in the office. Full-time students tend to think in personal wealth/ monetary acquisition terms (Kevin's comments on page endorsed by Tina). However caution is needed with this interpretation as this might be no more than an expression of a need for money by the students. Being in receipt of a salary the part-time students may not be so financially straightened.

None-the-less there is a suggestion that the participation metaphor may be a more apt metaphor within which to reconcile student learning with Scottish Executive aspirations for national competitiveness within a knowledge based economy. The concept of a knowledge based economy could be construed in socio-cultural terms as an economy where knowledge is socio-economically distributed. Thus the aspiration is one where national economies, organisations and communities of practices are all considered as socio-cultural phenomenon where knowledge is distributed. It a question of scale and unit of analysis. If this argument is accepted that a national economy is something within which knowledge is or may be distributed then

it is valid to question whether socio-cultural theories of learning are more appropriate given that participation appears to facilitate part-time students identifying with organisational economic effectiveness.

This recommendation is offered with a great measure of caution as it is the one supported by the least empirical evidence. Because a group, like the full time participants, were silent on an issue does not necessarily mean that they are dismissive of it. Nevertheless it is felt that the extent to which the reconciliation of such national aspirations and learning are better explainable within a participation metaphor would offer an interesting research agenda.

APPENDICES.

Appendix A	Questionnaire as issued to students.
Appendix B	Questionnaire as issued to staff.
Appendix C	Interview schedule.

In both Appendices A and B the codes attached to questions were added after their return.

Appendix A

This questionnaire has been designed to assess your approaches to studying and your views on teaching. Please work through these items *quickly*, giving your *immediate* reaction to each one by circling the code number closest to your own approach to studying and your views on teaching. The codes are not scores: they are used to indicate the following meanings:

5 = definitely agree 4 = agree somewhat 2 = disagree somewhat 1 = definitely disagree

Please try not to use **3 = unsure** unless you really have to, or if the item really cannot apply to you.

The questionnaire is anonymous but **it essential that I know which course you are on**, Interior Design, Quantity Surveying etc. **and whether you are a part time or a full time student**. Although not essential **it would be helpful if you did enter your name**.

Name _____

Course _____

Full Time (place cross in box)

☐

Part Time (place cross in box)

☐

	Definitely agree	Agree somewhat	Unsure	Disagree somewhat	Definitely disagree
1. I generally put a lot of effort into trying to understand things which initially seem difficult (DA)	5	4	3	2	1
2. Lecturers/teachers seem to delight in making the simple truth unnecessarily complicated (SA)	5	4	3	2	1
3. Lecturers/teachers sometimes give indications of what is likely to come up in exams, so I look out for what may be hints. (Strat.)	5	4	3	2	1
4. I often find myself questioning things that I hear in lectures/ classes or read in books. (DA)	5	4	3	2	1
5. I find I have to concentrate on memorising a good deal of what I have to learn. (SA)	5	4	3	2	1
6. When I'm doing a piece of work, I try to bear in mind exactly what that particular lecturer/teacher seems to want. (Strat)	5	4	3	2	1
7. I usually set out to understand thoroughly the meaning of what I am asked to read. (DA)	5	4	3	2	1
8. When I'm reading I try to memorise important facts which may come in useful later. (SA)	5	4	3	2	1
9. If conditions aren't right for me to study, I generally manage to do something to change them. (Strat)	5	4	3	2	1
10. When I'm tackling a new topic, I often ask myself questions about it which the new information should answer (DA)	5	4	3	2	1
11. The best way for me to understand what technical terms mean is to remember the text-book definitions. (SA)	5	4	3	2	1
12. One way or another I manage to get hold of the books I need for studying. (Strat.)	5	4	3	2	1
13. I usually don't have time to think about the implications of what I have read. (SA)	5	4	3	2	1
14. Often I find I have to read things without having a chance to really understand them (SA)	5	4	3	2	1
15. My main reason for being here is so that I can learn more about the subjects which really interest me. (Int.Mot.)	5	4	3	2	1
16. I find that studying academic topics can often be really exciting and	5	4	3	2	1

gripping (Int. Mot.)					
17. I spend a good deal of my spare time in finding out more about interesting topics which have been discussed in class. (Int. Mot)	5	4	3	2	1
18. I find academic topics so interesting, I should like to continue with them after I finish this course. (Int. Mot)	5	4	3	2	1
19. Teachers should assume that most students have very little useful knowledge of the topics to be covered. (ITTF(S))	5	4	3	2	1
20. I feel it is important that subject matter should be completely described in terms of specific objectives relating to what students have to know for formal assessment items. (ITTF(I))	5	4	3	2	1
21. In tutorial, lecturers should try to develop a conversation with the students about the topics we are studying. CCSF(S)	5	4	3	2	1
22. I feel it is important that lecturers present a lot of facts in classes so that students know what they have to learn for the subject. (ITTF(I))	5	4	3	2	1
23. Assessments should be an opportunity for students to reveal their changed conceptual understanding of the subject. (CCSF(I))	5	4	3	2	1
24. Lecturers should allow time out in classes so that students can discuss, among themselves, the difficulties that they encounter studying the subject. (CCSF(S))	5	4	3	2	1
25. Lecturers should concentrate in covering the information that might be available from a good textbook. ITTF(S))	5	4	3	2	1
26. Students should be encouraged to restructure their existing knowledge in terms of the new way of thinking about the subject which the students will develop. (CCSF(I))	5	4	3	2	1
27. Lecturers should use difficult or undefined examples to provoke debate. (CCSF(S))	5	4	3	2	1
28. Lecturers should structure their subject to help students to pass the formal assessment items. (ITTF(S))	5	4	3	2	1
29. I think an important reason for giving lectures is to give students a good set of notes. (ITTF(I))	5	4	3	2	1
30. Lecturers should only provide the students with the information they will need to pass the formal assessments. (ITTF(S))	5	4	3	2	1
31. Lecturers should know the answers to any questions that students may put to them during the subject. (ITTF(I))	5	4	3	2	1
32. Formal teaching time should be made available for students to discuss their changing understanding of the subject. (CCSF(S))	5	4	3	2	1
33. Students should generate their own notes rather than always copy those from the lecturer. (CCSF(I))	5	4	3	2	1
34. I feel a lot of teaching time should be used to question student's ideas. (CCSF(I))	5	4	3	2	1
35. Would you be willing to take part in a small group interview session. Lasting about 1 hour, with the researcher and 5 or 6 of your classmates (please circle appropriate response)	Yes		No		

End of this questionnaire

This questionnaire has been designed to assess your approaches to studying (by our students) and your views on teaching. Please work through these items *quickly*, giving your *immediate* reaction to each one by circling the code number closest to your own approach to studying and your views on teaching. The codes are not scores: they are used to indicate the following meanings:

5 = definitely agree : 4 = agree somewhat : 2 = disagree somewhat : 1 = definitely disagree

Please try not to use **3 = unsure** unless you really have to, or if the item really cannot apply to you.

The questionnaire is anonymous but **it essential that I know which course you predominantly teach on**, Interior Design, Quantity Surveying etc. **and whether you are a part time or a full time tutor**. Although it is not essential it would also be helpful if you did enter your name. If you teach across courses enter "all".

Name _____

Course _____

Full Time (place cross in box)

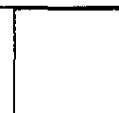
☐

Part Time (place cross in box)

☐

	Definitely agree	Agree somewhat	Unsure	Disagree somewhat	Definitely disagree
1. I expect students to put a lot of effort into trying to understand things which initially seem difficult (DA)	5	4	3	2	1
2. Teaching involves replacing student conceptions of simple truths with a more complicated view of things (SA)	5	4	3	2	1
3. I sometimes give indications of what is likely to come up in exam to assist students. (Strat.)	5	4	3	2	1
4. I expect students to question things that they hear in lectures/ classes or read in books. (DA)	5	4	3	2	1
5. Students may have to concentrate on memorising a good deal of what they have to learn. (SA)	5	4	3	2	1
6. When doing a piece of work students should try to bear in mind exactly what that particular lecturer/teacher wants (Strat.)	5	4	3	2	1
7. Students should set out to understand thoroughly the meaning of what they are asked to read (DA)	5	4	3	2	1
8. When reading students should try to memorise important facts which may come in useful later (SA)	5	4	3	2	1
9. If conditions aren't right for study, students should do something to change them. (Strat.)	5	4	3	2	1
10. When I'm introducing a new topic, I expect students to ask themselves questions about it which the new information should answer. (DA)	5	4	3	2	1
11. The best way for students to understand what technical terms mean is to remember the text-book definitions. (SA)	5	4	3	2	1
12. One way or another students should manage to get hold of the books they need for studying. (Strat.)	5	4	3	2	1
13. Students don't appear to have time to think about the implications of what they have read. (SA)	5	4	3	2	1
14. Students appear to read things without really understanding them (SA)	5	4	3	2	1
15. The main reason students should be here is to learn more about the subjects which really interest them. (Int. Mot.)	5	4	3	2	1
16. For the student, studying academic topics should be really exciting					

and gripping. (Int. Mot.)	5	4	3	2	1
17. Students should spend more of their spare time in finding out about interesting topics which have been discussed in class. (Int. Mot.)	5	4	3	2	1
18. Students should find academic topics so interesting they should like to continue with them after they finish this course. (Int. Mot.)	5	4	3	2	1
19. Teachers should assume that most students have very little useful knowledge of the topics to be covered. (ITTF(S))	5	4	3	2	1
20. I feel it is important that subject matter should be completely described in terms of specific objectives relating to what students have to know for formal assessment items. (ITTF(I))	5	4	3	2	1
21. In tutorial lecturers should try to develop a conversation with the students about the topics we are studying. (CCSF(S))	5	4	3	2	1
22. I feel it is important that lecturers present a lot of facts in classes so that students know what they have to learn for the subject. (ITTF(I))	5	4	3	2	1
23. Assessments should be an opportunity for students to reveal their changed conceptual understanding of the subject. (CCSF(I))	5	4	3	2	1
24. Lecturers should allow time out in classes so that students can discuss, among themselves, the difficulties that they encounter studying the subject. (CCSF(S))	5	4	3	2	1
25. Lecturers should concentrate in covering the information that might be available from a good textbook. (ITTF(S))	5	4	3	2	1
26. Students should be encouraged to restructure their existing knowledge in terms of the new way of thinking about the subject which the students will develop. (CCSF(I))	5	4	3	2	1
27. Lecturers should use difficult or undefined examples to provoke debate. (CCSF(S))	5	4	3	2	1
28. Lecturers should structure their subject to help students to pass the formal assessment items. (ITTF(S))	5	4	3	2	1
29. I think an important reason for giving lectures is to give students a good set of notes. (ITTF(I))	5	4	3	2	1
30. Lecturers should only provide the students with the information they will need to pass the formal assessments. (ITTF(S))	5	4	3	2	1
31. Lecturers should know the answers to any questions that students may put to them during the subject. (ITTF(I))	5	4	3	2	1
32. Formal teaching time should be made available for students to discuss their changing understanding of the subject. (CCSF(I))	5	4	3	2	1
33. Students should generate their own notes rather than always copy those from the lecturer. (CCSF(I))	5	4	3	2	1
34. I feel a lot of teaching time should be used to question student's ideas. (CCSF(I))	5	4	3	2	1



The risk of chaotic data collection during group interviews has been highlighted by Kvale (1996). This in turn poses a question as to the level of structure in the interview schedule.

The interview questions emerged from Table 2.3 (on page 34), in particular the headings given in the central column. Each interview moved along a different trajectory such that the interview questions rarely followed the sequence given in Table 2.3. Moreover it was anticipated that responses would not be constrained within the topic heading as introduced by the interviewee and there would be substantive “overflow”, within responses, from one topic heading to another. Given the “overflow”, mentioned above, it was not always necessary to specifically raise a particular issue an identified issue would often emerge, naturally, during the course of the interview. The interview can be considered as structured in three layers of:

- heading
- derived primary question
- typical secondary or follow up question.

The dynamics of the interviews were such that, across interviews, the primary questions were largely uniform. That is to say the same questions were, mostly, asked of each group. The same cannot be said of the secondary or follow up questions which tended to vary according to the differences in responses to primary questions by each group leading to greater diversity of question.

Heading from Sfard and Prawat (Table 2.3 p.34)	Derived Primary Questions	Typical Secondary or Follow-Up Questions
Learning.	<p>What do you mean by learning? What do you understand by "learning"? What does it mean to learn?</p> <p>What about work placement? Do (did) you learn at work?</p>	<p>That's an interesting phrase – <i>"it can't be taught but it can be learned"</i> --- How would that be learned? Given that – how can you be sure that learning is taking place in your students? So you learn at work? (of part-time students) What about this day-to-day business, in your work - - how does that relate to what you do in here? (of part-time students) And how exactly do you go about learning through work – how do you do that exactly? And would you say the process of learning when you were in practice -- were they the same as what you had in your college studio? (of ID staff).</p>
Goal of learning.	<p>Why do you learn then? Does learning have a purpose?</p>	<p>Could you give me an example of that? [learning] Right! So it is exam focused? [..] Are you quite happy about that? So what purpose does it serve if it is not to pass exams?</p>
Student.	<p>What makes a good student? (of staff)</p>	<p>Do you think the part-time students take a different approach to their studies then? [of staff] What would distinguish a good student from a poor student? [of staff]</p>

Teacher.	What makes a good teacher? (of students)	<p>Is it the same thing as a good practitioner (of part-time staff)?</p> <p>Could you be a good lecturer without having practised as a ____?</p> <p>Would you say that in order to teach design you have to be a good designer?</p> <p>What would distinguish a good teacher from a poor teacher?</p> <p>I'm trying to tease out how your part-time status might encourage this to happen. [of part-time staff]</p> <p>Are/were there teachers in your offices (of part-time and SWE students)</p>
Knowledge.	<p>A direct question was prepared, but not needed as the issue of knowledge generally was raised by the respondents during the interviews. Allowing ---</p> <p>Knowledge! What do you mean by that?</p> <p>That word "knowledge" has cropped up, at least twice – so how do you view knowledge? (QS staff)</p> <p>What type of knowledge do you then privilege in design disciplines?</p> <p>I'm also interested in the types of knowledge that interior designers (QS's) have and how it might differ from other groups.</p>	<p>So academic knowledge is not the be all and end all?</p> <p>Could we develop this different kind of knowledge?</p> <p>You also mentioned experience ---</p> <p>You seem to imply [...] that a QS is defined as having a particular way of thinking – rather than by the bits of knowledge he has—</p> <p>Does a consensus naturally emerge – or is it disputed?</p>
Knowing.	<p>What do students need to know? (of staff)</p> <p>What do teachers need to know? (of students)</p> <p>[On site] You used the term absorb – could you maybe build on that?</p>	<p>How do you make the distinction between what you need to know and what you don't? (of students)</p> <p>You used the term "<i>you need to know</i>" --</p> <p>Would you, at the end of that process, expect a student to get something totally right? (full-time and part time QS staff)</p>

<p>Emphasis. (Having/possessing v participating).</p>	<p>Do you think you are going to learn from placement? And Is it going to be the same type of learning? (students before placement – past tense used for students who had completed placement)</p>	<p>So you would regard studying as a relatively solitary process? And you feel that, sort of, excludes you – (of part-time students) That's quite an interesting comment – about the first year trainee – “was expected to listen” was he told to listen? Is it important to you to be a good quantity surveyor within your office – and how are you going to go about being that? Is that [<i>experienced surveyors asking questions of junior staff</i>] a feature of office life? You used the term “<i>a lecturer works with you</i>” – could you, maybe, explain what you meant by that?</p>
<p>Possible Consequences.</p>	<p>This generally emerged from other questions but some direct questions were asked. Do you see knowledge as ----? Is it the individual or the group who learns? Is it [learning] a solitary thing?</p>	<p>You talked about learning “<i>things</i>”. Could you explain what you mean by “<i>things</i>”? In your perspective learning is an individual thing –. So! Do you see learning as – then becomes a joint enterprise? You raised an issue there – learning because you are in a closer relationship with some sort of mentor or were you learning because you were engaged in some sort of joint activity? The notion of people taking problems to each other – was that a consistent thing in the offices you were in? O.K! <i>Involved</i> – what do you mean by involved?</p>

Identity	<p>What does it mean then to be a quantity surveyor? What do you consider yourself to be [of students]? Is there a culture within quantity surveying/ interior design? (of staff)</p>	<p>So you get your identity from --- where? So! A quantity surveyor is defined by what he does? So! It means something to you be referred to as a quantity surveyor? (of part-time staff and students) And does that create a tension for the part time student? Do you regard yourselves as designers who lecture or as lecturers who are interior designers? What about this notion of culture you mentioned – where does that come from.</p>
Tools. (esp. language)	<p>Do you feel tutorials should be a place where a lot of talk takes place?</p>	<p>Would you then go as far to say that learning is about the ability to use tools? (ID staff). Is that important to you that tutorials take on a discussion role?</p>
Artefacts.	<p>A direct question was prepared as: Did working with drawings allow you to better understand drawings? Generally the issue of Artefacts was raised by the respondents during the interviews.</p>	<p>This issue was not raised directly but was referred to, particularly by reference to working with drawings by both students and staff. For example a reference to understanding drawings emerged from a question: <i>Where did these questions come from? There must have been something that triggered your question!</i></p>

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